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ABSTRACT

The Alberta High School Social Studies Achievement Tests are described in terms of the procedures used for test construction and analysis of the norming data. The test construction is explained according to a model for the values clarification process in the social studies, and the evaluation models appropriate for assessing the values clarification process and its component skills. Five analyses of the tests are described: total tests, item levels, content areas, Canadian content, and processing skills. The values clarification process is comprised of two components: knowledge processing--including acquiring, organizing, interpreting, analyzing and evaluating, and synthesizing; and value processing--including identifying, arranging and organizing, analyzing, evaluating, and internalizing. Concept areas which are assessed include: participatory government, national unity, poverty, urbanization, regional disparity, tradition and change, population and production, conflict and cooperation, ideologies, political systems, and economic systems. Conclusions based on test results and recommendations for the testing program are given. (MH)

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REPORT ON THE DEVELOPMENT AND ADMINISTRATION OF THE HIGH SCHOOL SOCIAL STUDIES ACHIEVEMENT TESTS

Presented to

The Minister's Advisory Committee

on Student Achievement

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R. Lopatka
Student Evaluation and
Data Processing Services Branch
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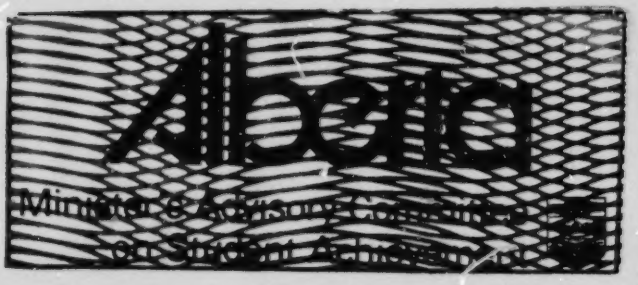
September, 1978.



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Chapter 1

INTRODUCTION

BACKGROUND TO PROVINCIAL EXAMINATIONS

Provincially set and scored exams have been a part of the Alberta educational system for almost as long a period of time as Alberta has been a province. The first such exams were administered in 1906 when the schools within the province were organized according to the system of English Standards. The Standard VII finals involved a possible total of 15 different examinations with most students writing an average of 10 finals.[1] MacArthur and Hunka reported that in 1906, 33 students wrote the Alberta Departmental Examinations in Standard VIII which was roughly the equivalent to the present Grade 12. Out of the 33 candidates who wrote these exams, 27 were awarded the Standard VIII Diploma.[2]

After the province had phased in the grade system in 1912 and 1913, examinations were prepared in the academic courses for grades 8 through 12 only. Grade 8 became the level for the Public School Leaving Examination, while success in the Grade 12 examinations provided the student with matriculation. From 1913 to 1936,

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[1] Alberta Department of Education, Roles in Student Evaluation and Research (Edmonton: Queen's Printer, 1976), p. 1.

[2] R.S. MacArthur and S. Hunka, "School Examination Practices and Standards in Alberta", A Report to the Advisory Committee on Educational Research (Edmonton: University of Alberta Monograph in Education, Number Two, 1958), p. 3.

the grade levels and subject areas in which students were required to write provincial exams had undergone a number of changes which generally reflected the changes in public and government attitude toward teacher responsibility.

Changes having a profound influence on teaching and testing practices in the schools were introduced in the provincial school system during the 1936-1937 term. The school program was divided into three main sections: elementary school, grades 1 to 6; junior high school, grades 7 to 9; and senior high school, grades 10 to 12. Grade 9 became the terminal point for basic education. Provincial Grade 9 tests, which were previously abandoned, were reinstituted and diplomas were issued after the completion of this grade. At the high school level the credit system was introduced and the high school diploma along with completion of specific credit and course requirements provided the basis for university entrance. Provincial examinations in Grades 10 and 11 were dropped making Grades 9 and 12 the only two grade levels at which final Departmental Examinations were given.[3]

Relatively few changes in the diploma and matriculation requirements were made until the 1960's when a need for more local autonomy in matters of student evaluation arose. New requirements for manpower in commercial and technical areas had resulted in the building of specialized vocational high schools in addition to the large composite high schools. This necessitated the routing of

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[3]Alberta Department of Education, op. cit., pp. 2-3.

Grade 9 students into the various programs: vocational, general, and matriculation.[4] Pressures for modifications in the diploma requirements continued until 1969 when the province completely terminated the use of Grade 9 final Departmental Exams for promotion purposes. Then in 1973, in response to the growing support for the complete accreditation of schools the compulsory Grade 12 Departmental Exams were terminated.

Course Content and Format of Departmentals

Over the years the subjects examined have varied. However, such subjects as English, Mathematics, Science, Social Studies, and Second Languages have always remained as the core for provincially administered examinations. It has been noted that, in spite of the many changes associated with the practices of provincial or Departmental Exams, the subject titles of examinations have remained much the same for over sixty years.[5]

In 1973, at the time the Grade 12 Departmental Examinations were terminated, examinations were administered in eight matriculation subjects. They were: English 30, Social Studies 30, Math 30, Math 31, Biology 30, Chemistry 30, Physics 30, and Second Languages (French 30, German 30, Ukrainian 30). The content for these exams were derived from the cognitive curricular objectives for each course. The item type used in the exams was the machine-

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[4]Alberta Department of Education, op. cit., p. 5.

[5]Ibid.

scored multiple-choice items. One of the major advantages of this type of test was in the ease of scoring. Machine scored tests greatly reduced the time, the number of markers and consequently the costs required in the marking of tests.[6]

ACHIEVEMENT TESTS

The groundwork for Alberta Education Achievement Tests was established in 1972, prior to the termination of the compulsory final Departmental Examinations. The concept of achievement tests in Alberta was developed within the framework of accreditation of senior high schools in the province. In a paper titled Procedures for the Accreditation of Senior High Schools in Alberta, dated February 7th, 1973, which was mailed to the Chairmen of School Boards, Secretary-treasurers of School Boards, and Superintendents of Schools, accreditation of Alberta schools was announced in the following terms:

> Commencing in September 1973 senior high schools in Alberta including summer schools, will be accredited for the purpose of determining final standing in all high school subjects including those required for matriculation and university entrance ...[7]

This announcement was accompanied by a list of the criteria each school had to meet in order to quality for full accreditation. Since accreditation had removed the main justification for

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[6]Alberta Department of Education, op. cit., p. 6.

[7]Alberta Department of Education, "Procedures for The Accreditation of Senior High Schools in Alberta," (Alberta Deputy Minister of Education, February 7, 1973), p. 2.

compulsory Grade Twelve Departmental Examinations in matriculation subjects, some alternative system or method for monitoring student achievement to assure the maintenance of standards throughout the province was deemed necessary. Consequently, the final paragraph of the paper on "Procedures for Accreditation" addressed itself to this problem by stating:

> With accreditation the Department of Education will develop a scheme for the systematic assessment of standards of achievement in the schools of Alberta. Alberta norms will be established by means of a comprehensive testing program. Norms thus established will be firm for a number of years establishing a bench mark for future measurements of achievemer .[8]

The responsibility for the development of these tests which were to establish the "bench marks" for future measurements of achievement fell to the Research, Development and Examination Branch of the Department of Education, now the Student Evaluation and Data Processing Services Branch (SEDPS). The standardized achievement tests, as they became known were to be developed at the high school level in the key subject areas of: English, Social Studies, Biology, Chemistry, Physics, Mathematics and French. The achievement tests were to be based on the cognitive curricular objectives for each subject area. Furthermore, in a distinct departure from the Grade 12 Departmental Examinations which tested only for the objectives of the Grade 12, or 30 level of each subject, the achievement tests were to include the curricular objectives of all the levels of the subject area taught in the high schools: Grade 10, 11 and 12.

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[8]Alberta Department of Education, "Procedures for The Accreditation of Senior High Schools in Alberta," (Alberta Deputy Minister of Education, February 7, 1973), p. 4.

Two forms of the test were to be prepared. One form, Form A, was to be made available for administration as designed by local school jurisdictions, while the second form, Form B, was to be reserved for Departmental use. The time lines followed by the SEDPS Branch in the development of the Alberta Education Achievement Tests in each subject are shown in Table 1.

More recently a program of regular administration of Form B of the achievement test has emerged. In a statement to the Provincial Legislature on Friday, October 26, 1976, the Minister of Education announced that "a long-term testing program for Alberta high school students to establish durable provincial bench marks of achievement" was being implemented.[9] The salient feature of this program includes the administration of two or more examinations to Grade 12 students during each school year to be written by all Grade 12 students registered in the specific course, in the specific semester. The Minister emphasized that the test scores would not be used by the Department of Education as part of the student's final mark. However, if a teacher chose to use the score as one of the factors in determining the final mark, he would be free to do so. Finally, the Minister stated that the individual student's achievement was to be supplied as information to the student, his parents, and the school, while results on a regional and provincial basis would be published as public information.[10]

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[9]Alberta Legislative Assembly, Alberta Hansard, Friday, October 22, 1976, p. 1612.

[10]Ibid.

Table 1

Time Lines for the Development of Alberta Education Achievement Tests

Subject	Commencement	Norming	Completion (Tests)	Completion (Manual)
Biology	May 1973	January 1975	June 1975	June 1975
Chemistry	August 1972	January 1975	June 1975	June 1975
Mathematics	August 1972	January 1975	June 1975	June 1975
Physics	August 1972	January 1975	June 1975	June 1975
English	January 1977	January 1978	June 1978	January 1979
French	September 1974	June 1977	January 1978	June 1978
Social Studies	January 1975	June 1977	January 1978	June 1978

The purpose of this report is to analyze the achievement of students who wrote the Social Studies Achievement Test in June 1977.

Chapter 2

ASSESSING THE "NEW" SOCIAL STUDIES: SOME OF THE ISSUES

> Alberta's new social studies curriculum . . . is premised on the assumption that schools must help students in their quest for a clear, consistent and defensible system of values. . . .
> . . . . . .
> By actively confronting value issues, students will come to know the ideas and feelings of themselves, their peers, and the adult generation; they will deal not only with the "what is" but also with the "what ought to be" and will have the opportunity to make this world a more desirable place in which to live.[1]

These words heralded the introduction of the "new" social studies program in Alberta schools in the early 1970's. They signalled both a distinct departure from the courses which were being replaced as well as a new emphasis on the social studies goals associated with processes and values. This chapter of the report will attempt to outline the features which were new in the "new social studies" and their implications to teaching and testing practices in the social studies.

UNIQUE FEATURES OF THE 1971 ALBERTA SOCIAL STUDIES PROGRAM

Changes in the social studies program may best be seen and understood through an examination of the objectives of both the old and the new courses. The new program did not generate new objectives as much as it rediscovered some old ones. This change in

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[1] Alberta Department of Education, Responding to Change: A Handbook for Teachers of Secondary Social Studies (Edmonton: Queen's Printer, 1972), p. 5.

emphasis of the social studies objectives is central to the discussion which follows.

New emphasis on Process Objectives

The social studies courses of the 1960's had specifically prescribed knowledge objectives as well as authorized text books. At the high school level, the discipline of history was a major source of course content. All of these features tended to make historical facts a major concern in both the teaching and testing of the social studies. The new curriculum guide offered a different approach based on an attempt to cope with what has often been called "the knowledge explosion". The orientation of the new approach was to emphasize the inquiry skills required in the processing of the rapidly accumulating information and knowledge. As Berry had put it ". . . how to select the facts we want and how to weave them into whole cloth is our problem. The emphasis is on the how rather than the what."[2] This change in the approach to the knowledge objectives constituted one of the basic features of the new social studies program. Instead of attempting to present the students with all the necessary information, the new social studies sought to prepare the student by developing the skills for selecting, evaluating, organizing, and applying information from the vast array of knowledge available. The Secondary Social Studies Hand book, Responding to Change, summarized this orientation as follows:

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[2] G.L. Berry, Problems and Values (Toronto: J.M. Dent & Sons, 1967), p. 5.

> Knowledge in the social studies is gathered for the purpose of establishing concepts and generalizations, and for the understanding and solution of problems and issues.[3]

This change in emphasis found its expression in both of the new curriculum guides, Experiences in Decision-Making[4] and Responding to Change.[5] In the course descriptions which these documents provided, only broad and general outlines of the units (value-issues) were stated. No textbook or textbooks were prescribed or authorized for any grade. Teachers were expected to engage in curriculum development by selecting and preparing the specific content which they were to use in the teaching of each value issue. This flexibility is best exemplified by the new Social Studies 10 program where the curriculum guide listed and briefly outlined ten different value issues but suggested that only three need be taught. In addition to the flexibility given to the structured part of each course, the new curriculum made provision whereby up to one-third of the social studies class time could be devoted to a study of topics of current interest to students and teachers. Responsibility for the development of this portion of the course was left entirely in the hands of the students and teachers, since the curriculum guide stated,

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[3]Alberta Department of Education (1972), op. cit., p. 74.

[4]Alberta Department of Education, Experiences in Decision-Making: Elementary Social Studies Handbook (Edmonton: Queen's Printer, 1971).

[5]Alberta Department of Education (1972), op. cit.

"The Department of Education does not intend to structure the use of this one-third time."[6]

Expanded Process Objectives

Valuing and decision making assumed an important role in the social studies. The rationale of the new program stated that two inter-related implications of the assumption that schools must help students in their quest for a clear, consistent, and defensible system of values were:

> . . . firstly, students must be enabled to explore and assess the nature of values that influence their personal and social lives; secondly, students must be assisted to develop the ability to make decisions pertinent to both their individual beings and their roles as active participants in their physical and social environments.[7]

The result of these goals was a conscious and deliberate attempt to expand the objectives of the learning process beyond those associated with the traditional memorization and recall of facts to include the so-called higher mental processes, or higher level thinking abilities.

Affective Objectives of New Courses

In addition to the importance placed on the process objectives in the new social studies, the affective objectives were given a new priority. The following statements which announced the introduction of the new courses underscore the increasing attention and new importance given to the affective domain:

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[6]Alberta Department of Education (1972), op. cit., p. 10.

[7]Alberta Department of Education (1971), op. cit., p. 9.

> The primary objective will be to provide opportunities for each student to clarify and internalize a value system.[8]

and again:

> Values (as indicated by aspirations, attitudes, interests, feelings, beliefs, activities, and problems) will form the nucleus of course content.[9]

Other changes in the new courses included a shifting of emphasis from the traditional disciplines of history and geography to include the concepts and methods of a greater number of the social sciences.

Summary

To sum up, the social studies program which was introduced by the Alberta Department of Education in the early 1970's involved a number of major and far reaching changes. The reordering of the major goals of the social studies resulted in some significant changes in the approach to both the teaching and testing of the social studies. In place of the knowledge objectives associated with the disciplines of history and geography, the orientation of the "new" social studies placed a much greater emphasis on the process objectives associated with valuing and inquiry.

The effects of these changes on the development of the High School Social Studies Achievement Test will be documented in the following section of this study.

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[8] C.D. Ledgerwood, "Preparing Decision-Makers for the Seventies," ATA Magazine, L, No. 3 (January-February, 1970), p. 8.

[9] Ibid., p. 9.

THE TASK OF DEVELOPING TESTS FOR THE NEW PROGRAM

One fundamental purpose served by evaluation is to determine how well the objectives of a program have been achieved. The key to the accomplishment of this purpose is the existence of clear objectives. As soon as there is a clear understanding of what constitutes educational achievement in the subject area to be tested, test construction may proceed. The importance of identifying the objectives of a course is best stated by Dyer:

> Once the goals of instruction have been clearly set forth by describing the operations students have to perform to attain them, the problem of devising tests and other techniques for assessing academic achievement is at least seventy-five percent solved.[10]

If on the other hand, the objectives of the course are indefinite or not clearly specified not even the most sophisticated instruments can reveal whether the objectives have been achieved.

In attempting to develop a high school achievement test in social studies that would be suitable for students throughout the entire province, the task of identifying common objectives assumed major proportions. As was previously indicated, objectives of the new social studies courses were stated in broad and general terms to allow for teacher involvement and development of the curriculum. Although this provided the freedom and flexibility for the "teachers

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[10] H. Dyer, "On The Assessment of Academic Achievement" Assessing Behavior: Readings in Educational and Psychological Measurement eds. John T. Flynn and Herbert Garber (Don Mills, Ontario: Addison-Wesley, 1967), p. 13.

and students to select learning opportunities according to their own needs and interests",[11] it did not provide a common base of knowledge from which a standardized achievement test could be constructed.

Furthermore, emphasis on such processes as valuing or value clarification resulted in the endorsation and adoption of process goals that lacked specification and definition. Those charged with test development responsibilities discovered that there was a lack of agreement as to just what was meant by the terms "valuing" and "value clarification", and what subskills comprised these processes. The considerable task of identifying the process goals in the social studies had to be undertaken before test items in this area could be developed.

Clearly, there was need for a new approach to the development of standardized instruments which attempted to assess the achievement of students taking the new social studies courses. The Grade 12 final Departmental Exams which were terminated in 1973 did not provide a suitable model since they relied on a set of common knowledge objectives found in authorized texts. Removal of both the common knowledge objectives and authorized texts from the new curriculum meant the removal of the main source of this type of exam. Furthermore, testing programs developed for the "old" social studies curriculum (prior to 1970) had not developed the rationale, methods, or strategies required in the testing of specific process of skills.

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[11] Alberta Department of Education (1972), op. cit., p. 9.

Since the policy of the Department in the development of achievement tests was to concentrate on the cognitive objectives stressing skills, concepts and generalizations, the social studies test did not include objectives in the affective domain. This did not, however, preclude the possibility of developing affective instruments at a later date.

In order to accomplish this task, Alberta Education seconded a department head from the Edmonton Public School Board to coordinate and to assist the planning and item-building committees. A complete listing of members who served on these committees may be found in the first two appendices of this report.

Chapter 3

TEST CONSTRUCTION

In establishing the basis of test construction in the social studies, the Test Development Branch faced two important tasks. First, it was necessary to provide a conceptual framework or model for the value-clarification process in the social studies. Second, it was essential to define the evaluation models which were appropriate for the assessment of the value-clarification process and of the component skills. Since the manner in which these two tasks were resolved was of such fundamental importance to the succeeding phases in the development of the Social Studies Achievement Tests it will be necessary to deal with them in some detail.

THE VALUE-CLARIFICATION MODEL

In the attempt to provide an operational definition of the value-clarification process in the social studies, the Lopatka-Sabharwal model was adopted (see Figure 1). This model is based on a systems approach which Stufflebeam defines simply as "having an input, a process, and an output".[1] The main features of a system are that it spans time and connotes some change in state which occurs between the input and output which is usually referred to as the process.

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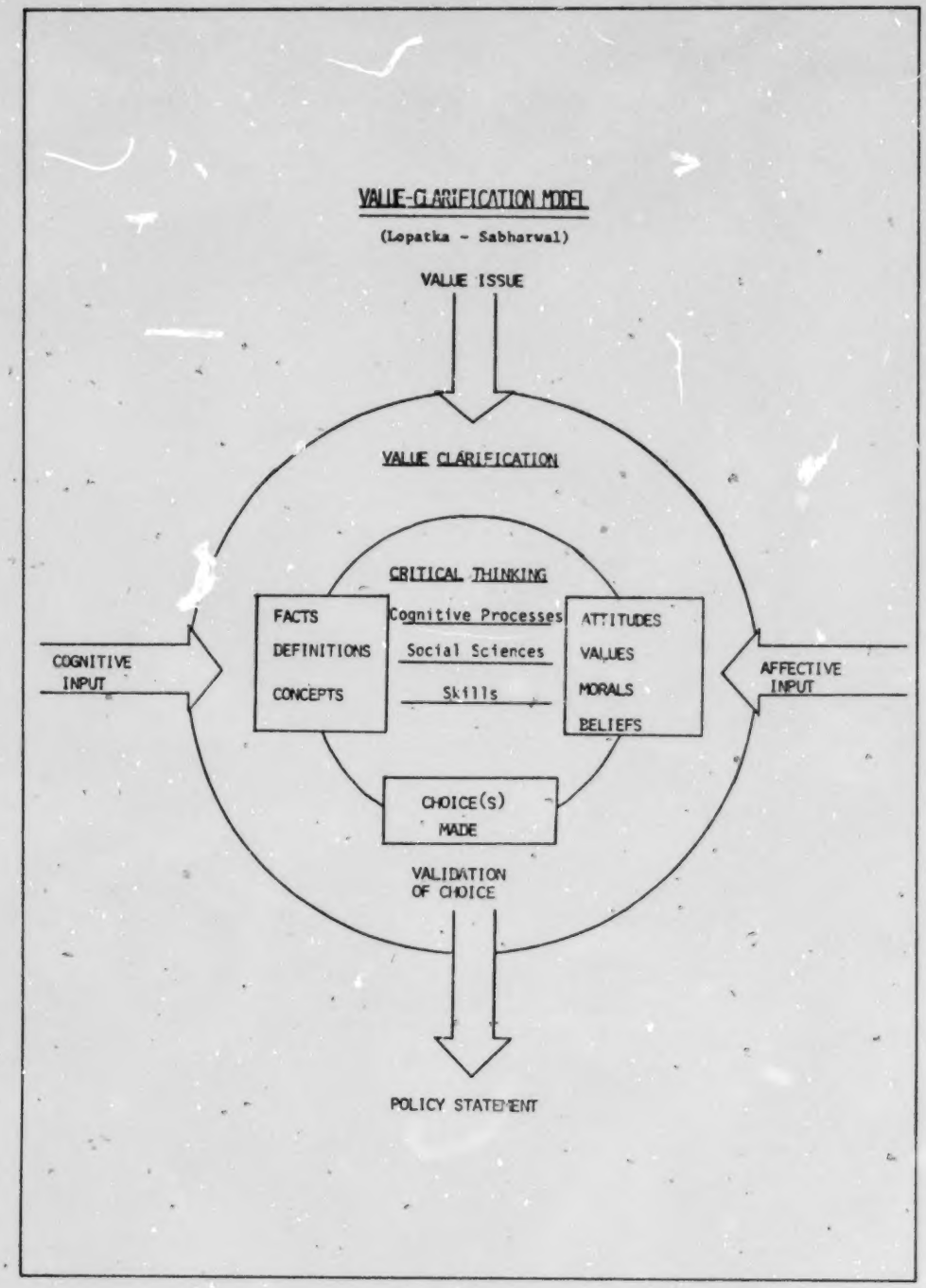
[1]Daniel L. Stufflebeam et al., Educational Evaluation and Decision Making (Bloomington, Indiana: Phi Delta Kappa, 1971), p. 124.

Figure 1


VALUE-CLARIFICATION MODEL
(Lopatka - Sabharwal)
VALUE ISSUE
VALUE CLARIFICATION
CRITICAL THINKING
FACTS
DEFINITIONS
CONCEPTS
Cognitive Processes
Social Sciences
Skills
ATTITUDES
VALUES
MORALS
BELIEFS
COGNITIVE INPUT
AFFECTIVE INPUT
CHOICE(S) MADE
VALIDATION OF CHOICE
POLICY STATEMENT

The Lopatka-Sabharwal Value-Clarification Model is basically a decision-making model which recognizes and takes into account the importance of the affective input in the formulation of solutions to social or personal problems. It considers three major inputs: the value issue itself, the cognitive input required in the solution of the problem, and the affective input which impinges itself on and "affects" the manner in which the problem will be solved. The overall process according to this model is the sum of the numerous skills and subskills required in arriving at policy-type decisions to the issues confronting people in their handling and management of human affairs. Unlike the rational problems found in mathematics and the physical sciences where a "correct" answer may be found by following a system of logical analysis, many problems in human affairs may be solved by arriving at totally contradictory solutions, each of which could be considered "correct" depending on the affective inputs.

The cognitive input consists of the relevant facts, definitions and concepts which have a bearing on the problem. In a purely research type of question, these alone may suffice to provide an answer. The affective input which provides this model with the name "value clarification" takes into account the fact that such affective inputs as attitudes, values, morals or beliefs, may have a profound influence on the manner in which solutions to social, political, economic, and personal problems are reached. The processes at the center of the diagram of the model involve the use of the different levels of thought, skills of recognizing, identifying, prioritizing and processing one's own and others'

values, and the use of concepts and methods of the social sciences. Choices are made and validated with the output being a full-fledged decision or policy statement concerning the issue.

Figure 2 on page 20 presents a flowchart tracing the different stages of the processing of the cognitive and the affective inputs of the model. Data I, which represents the cognitive input, is shown to be processed in five stages: acquire knowledge, organize knowledge, interpret knowledge, analyze and evaluate knowledge, and synthesize knowledge. The affective input, represented by Data II in the diagram, passes through five stages of processing in a similar manner to the cognitive input. Beginning with an identification of the beliefs, attitudes, and values, it ends with an internalization of values.

A further elaboration of the skills required in the processing of the knowledge input (Data I) is provided in Table 2 on page 21. This chart attempts to specify the separate skills which are employed in each of the five stages of the processing of knowledge. The chart in Table 3 on page 22 presents a summary of the skills required in the different stages of processing the affective input. Finally, a more exhaustive and complete breakdown of the value-clarification or decision-making skills may be found in the Taxonomy of Social Studies Skills (Appendix 3) on pages 84 to 90.

The benefits to the test construction activities of the Student Evaluation and Data Processing Services Branch of this exhaustive definition of the value-clarification model were twofold. First, in keeping with the wishes of the Planning Committee

Figure 2

VALUE CLARIFICATION PROCESS

VALUE CLARIFICATION SKILLS -- (PROCESS OF MANY SUB-SKILLS)

(Knowledge Processing) Problem solving / Critical thinking } skills

(Values Processing) -- Value Clarification Skills

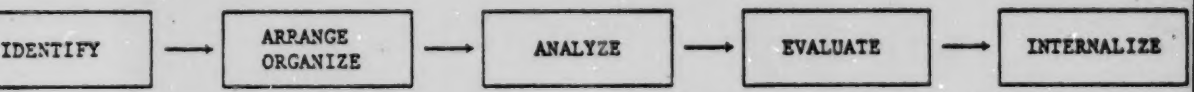


Table 2

Summary of Knowledge Processing Skills

ACQUIRE ---------->	ORGANIZE ---------->	INTERPRET ---------->	ANALYZE and EVALUATE ---------->	SYNTHESIZE
Find Materials in library Locate Information in Books Acquire Information (a) Through reading (b) From geographic materials (c) From graphic materials (d) By listening and observing (e) From a variety of sources	Arrange, Organize, Classify Material (a) Arrange facts, ideas and events in order (b) Classify, categorize, or group data Record Information (a) Take notes - list topics - summarize main points (b) Select main ideas and supporting facts (c) Make an outline (d) Select answers to questions (e) Classify information under main headings (f) Compose headings or titles (g) Compile Table of Contents (h) Compile Bibliography	Interpret Information accurately from (a) Writing and/or printing (verbal and numerical symbols) (b) Graphic representations (c) Illustrative Materials (d) Models (e) Spoken words (f) Behaviors Comprehend Information identify (a) Central issue (b) Main and supporting ideas (c) Generalizations (d) Underlying assumptions (e) Hypotheses (f) Underlying Values (g) Propaganda devices Translate Information: (a) Present information in different forms and representations (b) Restructure information	Analyze Evidence systematically and thoroughly for (a) Accuracy (b) Adequacy (c) Relevance (d) Contradiction (e) Consistency (f) Reasonableness (g) Bias Compare Data from various sources (a) For agreement (b) For disagreement Determine Which Source is More Acceptable and why Apply Analytical Processes (a) From the Social Sciences (b) From History Evaluate Arguments in terms of (a) Logical criteria (b) Empirical modes of enquiry	Draw Inferences (a) From particular facts or data: - observations - representations - descriptive data - graphic materials - sequences of events (b) About a particular case from a general principle Generalize (a) Discover relationships between concepts (b) Apply generalizations to New Situations Hypothesize (a) Formulate hypotheses to: - Explain certain facts - Guide in the investigation of problems (b) Verify Hypotheses Theorize (a) Discover complex relationships (b) Formulate logical rules (c) Test theories Make Decisions (a) Apply principles appropriate to given problem (b) Formulate alternatives (c) Predict possible consequences of alternatives (d) Select solution

Table 3

Summary of Value Processing Skills

IDENTIFY ----------→	ARRANGE ORGANIZE ----------→	ANALYZE ----------→	EVALUATE ----------→	INTERNALIZE
Identify (a) things, ideas and behaviors one values (b) things, ideas and behaviors others value (c) different value positions represented in a social issue Recognize (a) values expressed in real or simulated behavior (b) values expressed in real or simulated choices (c) underlying decisions on real or simulated issues (d) underlying interests	Select and use value principles which are appropriate to the situation Prioritize or Rank personal values (arrange one's values in order of priority) Locate information which substantiates different value positions on social issues	Determine (a) the reasons why one values certain things, ideas and behaviors (b) what unmet needs might be influencing one's behavior Analyze (one's own and other's) (a) statements to identify values and value principles (b) behavior to identify values and value principles (c) actions, emotional responses, choices and decisions which indicate the strength of one's commitment to a value Assess - the intensity with which people value certain things, ideas, and behaviors in relation to other things, ideas and behaviors at a given time	Evaluate (Test) (a) the appropriateness of one's values and behavior to meet: - personal needs - needs of others - needs of society - needs of man (b) the adequacy of information that underlies personally held values or principles (c) rationales underlying values or principles -- by means of logical operations and/or appropriate strategies Construct alternatives which meet the needs of self and society in problem or conflict situations Validate decisions (choices) made by: (a) agreement with respected sources test (b) universal applicability test (c) roles exchange test (d) new case test	Internalize values in response to validated information about needs, values and behavior Alter or Maintain Behavior (a) to match personal values or needs (b) in response to new information about self or situations

and in line with the intent of the new social studies curriculum, a greater elaboration, definition and specification of the value-clarification process was attempted. Second, the exhaustive model with its specification of the skills and subskills which make up the value-clarification process assisted in removing a significant barrier to communication between the members of the Test Development Branch and the teachers participating in the item building. The model provided a basis for the establishment of common meanings. Whenever reference was made to value clarification as a process, or to the skills constituting the process, there was a far greater understanding of the meanings underlying the use of this terminology.

ITEM BUILDING

At the same time that the value-clarification model was being developed, work was proceeding in defining the evaluation models appropriate to the testing of process skills. This work resulted in the development of both the rationale and techniques for the construction of multiple-choice test items which were specifically designed to test for the different levels of skills and subskills identified as being part of the value-clarification process. Items were therefore identified as being discrete or textual.

The basis of these two categories depended on whether the item was self-contained, that is one which was complete in itself, or whether it was based upon or dependent on any additional material such as quotations, paragraphs, passages, maps, graphs, tables, diagrams, charts, cartoons, photographs or any other materials. The self-contained, or discrete item was identified as being well-suited to testing for objectives which sought the recall of facts, concepts, generalizations or principles.

The textual item which was based on material extraneous to the stem and alternatives was found to be ideally suited to the testing of the skills and processes of the social studies. The additional material forming a part of this type of item provided both the teacher and student with the same frame of reference and was readily adaptable to the measurement of a wide variety of concepts and skills. Such items minimized the influence of factual material and were also constructed to measure some of the more complex skills. Mehrens and Lehman have provided valuable insights into the construction of such items which they called "Context-Dependent Items".[2] The Educational Testing Service (New Jersey) has developed a similar approach to essay testing through a type of item called the Document-Based Question or DBQ.[3]

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[2]William A. Mehrens and Irvin J. Lehman, Measurement and Evaluation in Education and Psychology (New York: Holt, Rinehart and Winston Inc., 1973), pp. 291-306.

[3]Leona B. Brown, "What Teachers Should Know About Standardized Tests," Social Education, (November - December, 1976), p. 511.

FIELD TESTING

Of the 2,226 items constructed by the item-building committees, 1,423 formed the basis for the development of instruments which were pre-tested in January, 1977.

Most of the classes involved in the field testing had completed their social studies program in Social Studies 10, 20 or 30 and were representative of each of the educational zones in Alberta. Teachers of these classes were requested to make any pertinent comments associated with the content validity of the items.

TEST NORMING

Following field testing an item analysis was performed to determine the suitability of each item in assessing achievement. From this analysis 270 items were selected to form the basis of constructing two parallel forms. Each form of the Social Studies Achievement Test was divided into three sections (I, II and III) each of which consisted of 40 items related to the three levels of the senior high school program. Section I contained only Social Studies 10 items, while Sections II and III contained items from Social Studies 20 and Social Studies 30 respectively. Distribution of items according to these course levels is shown in Table 4 on page 26.

Table 4

Distribution of Items According to
High School Course Levels

Section	Social Studies			Total
	10	20	30	
I	40	—	—	40
II	—	40	—	40
III	—	—	40	40
Total	40	40	40	120

Description of Tests

The Table of Specifications, Table 5 on page 27, classifies the items selected for the test used in this assessment program according to the various content areas and to the knowledge processing skills.

Table 6, pages 28 to 30, shows within each concept area the classification of items according to concept and sub-concept descriptors. For each item a classification of time and place is also provided. Page 27 of the table identifies the items in the test area specific to Social Studies 10, whereas pages 29 and 30 identify the items for Social Studies 20 and Social Studies 30 respectively. Table 6 also shows the number of items in each course related directly to Canadian content. However, those items identified as "Universal" are also applicable to Canadian content. Thus the test comprised 49 items directly related and 38 items indirectly related to Canadian content.

Table 5

Table of Specifications for Social Studies Achievement Tests

COURSE AND UNIT	RECALL		KNOWLEDGE PROCESSING SKILLS*						TOTALS
			ACQUIRE and ORGANIZE		INTERPRET		ANALYZE, EVALUATE and SYNTHESIZE		
	ITEM NUMBER	TOTAL	ITEM NUMBER	TOTAL	ITEM NUMBER	TOTAL	ITEM NUMBER	TOTAL	
SOCIAL STUDIES 10									
Participatory Government	1,2,3,6,7	5			4,5,8,9,10, 11,12,13	8			13
National Unity	16	1	14,17	2	18	1	15	1	5
Poverty					23	1	19,20,21,22	4	5
Regional Disparity			26,27,34,35, 36,37,38,39, 40	9	30,32,33	3	28,29,31	3	15
Urbanization			24,25	2					2
TOTALS		6		13		13		8	40
SOCIAL STUDIES 20									
Tradition and Change			44,45,49,50	4	41,43,53	3	42,46,47,48, 51,52,54,55, 56,57,58,59, 60	13	20
Population and Production	76,80	2	63,74	2	66,67,70,71, 73,77,78	7	61,62,64,65, 68,69,72,75, 79	9	20
TOTALS		2		6		10		22	40
SOCIAL STUDIES 30									
Conflict and Cooperation	97	1	82,90,91	3	81,84,88,89, 92,96	6	83,85,86,87, 93,94,95	7	17
Ideologies	98,99,104	3	101,102	2	103	1	100	1	7
Political Systems	105,106,107, 109,110	5			108	1			6
Economic Systems	111,112,113, 114,115,116, 117	7	120	1	119	1	118	1	10
TOTALS		16		6		9		9	40
GRAND TOTALS		24		25		32		39	120

Table 6

Social Studies Achievement Test: Description of Items

UNIT	ITEM	CONCEPT	SUB-CONCEPT	TIME				PLACE			
				Past	Present	Future	Timeless	Canada	Other	Imaginary	Universal
Participatory Government	1	Confederation	BNA Act	1867				✓			
	2	Federal Government	Basic Features				✓	✓			
	3	Representative Government	Basic Features				✓				✓
	4	Responsible Government	Role of Governor	1839				✓			
	5	Senate		1867 -				✓			
	6	Western Alienation	Major Grievances		✓			✓			
	7	Political Parties	Social Credit		✓			✓			
	8	Taxation	Provincial and Federal		✓			✓			
	9	Representative Government	Member Responsibility				✓				✓
	10	Interest Groups	Influence on Legislation		✓			✓			
	11	Comparative Political Systems	Parliament - Congress		✓			✓	U.S.		
	12	Comparative Political Systems	Parliament - Congress		✓			✓	U.S.		
	13	Participatory Government	Public Pressure		✓			✓			
National Unity	14	Bilingualism	Use of French		✓			✓			
	15	Bilingualism	Extent of Use of French		✓			✓			
	16	Canadian Unity	Effective Programs		✓			✓			
	17	National Policy	Tariffs	1890's				✓			
	18	National Policy	Effects on Industry	1890's				✓			
Poverty	19	Debt Collection	Controls on Agencies		✓			✓			
	20	Consumer Protection	Solution to Poverty		✓			✓			
	21	Medicare	Funding by Government		✓			✓			
	22	Income Distribution	Age - Wage Relationship	1965				✓			
	23	Regional Industry	Fishing Community		✓			✓			
Urbanization	24	Urban Growth	Rates of Growth	1966-1971				✓			
	25	Urban Growth	Rates in Western Canada	1966-1971				✓			
Regional Disparity	26	Income Distribution	Provincial Basis	1970-1971				✓			
	27	Income Distribution	By Occupation	1970-1971				✓			
	28	Dominant Regions	Basis of Dominance		✓			✓			
	29	Western Alienation	Feeling of Unease		✓			✓			
	30	Centers of Power	Effects on West		✓			✓			
	31	Transportation	Railways		✓			✓			
	32	Geography (Western Canada)	Elevation		✓			✓			
	33	Geographic Regions			✓			✓			
	34	Disposable Income	Comparison	1960-1970				✓	U.S.		
	35	Income Distribution	Regional Basis	1960-1970				✓			
	36	Purchasing Power	Effects of Inflation	1960-1970				✓			
	37	Incomes	Purchasing Power	1960-1970				✓			
	38	Purchasing Power	Inflation	1960-1970				✓			
	39	Disposable Incomes	Regional Variation	1960-1970				✓			
	40	Inflated Incomes	Government Revenue	1960-1970				✓			
Total Number of Social Studies 10 Items				17	20	0	3	38	3	0	2

Social Studies Achievement Test

UNIT	ITEM	CONCEPT	SUB-CONCEPT	TIME				PLACE			
				Past	Present	Future	Timeless	Canada	Other	Imaginary	Universal
Tradition and Change	41	Change	Characteristics	1700 -					Global		
	42	Change	Effects of Technology	1700 -					Global		
	43	Change	Characteristics				✓				✓
	44	Scientific Predictions	Realm of Possibility			✓					✓
	45	Scientific Predictions	Order of Occurence			✓					✓
	46	"Bloodless Revolution"	Historical Analysis	1685-1688					U.K.		
	47	Comparative Social Values	Modern Society				✓				✓
	48	Comparative Social Values	Traditional Society				✓				✓
	49	Innovations	Rate of Acceptance				✓				✓
	50	Innovations	Numbers Adopting				✓				✓
	51	Innovation	Public Needs		✓						✓
	52	Change	Acceptance		✓			✓			
	53	Change	Forces of Change		✓			✓			
	54	Natural Resources	Finite Non-Renewable		✓			✓			
	55	Tradition	Security		✓			✓			
	56	Change	Industrialists' Views		✓			✓			
	57	Change	Relationship to Tradition		✓			✓			
	58	Definition of Terms	Dialogue Analysis		✓			✓			
	59	Time and Judgments	Dialogue Analysis		✓			✓			
	60	Environmental Change	Effects of Chemicals		✓						✓
Population and Production	61	Population Control	Attitudes	1940-1970						Urepland	
	62	Per Capita Income	Relationship to Education	1940-1970						Urepland	
	63	Industrial Growth	Ranking	1950-1969						Urepland	
	64	Tertiary Production	Factors of Location	1900 -						Urepland	
	65	Population Density	Simple Density	1970						Urepland	
	66	Tertiary Industry	Labor Force Involved	1969						Urepland	
	67	Education		1969						Urepland	
	68	Economy	Basis of Economy	1940-1970						Urepland	
	69	Population Trends		1940-1970					Unidentified		
	70	Demographic Transition		1890-1960					Unidentified		
	71	Population Density	Simple Density		✓					Country X	
	72	Types of Economies	Subsistence		✓					Country X	
	73	Population Growth	Rates of Increase		✓					Country X	
	74	Population Growth	ZPG	1940-1970					Unidentified		
	75	GNP	Effects of Increase		✓				Unidentified		
	76	Subsistence Economy	Main Features				✓				✓
	77	Population Growth	Relationship to Resources			✓			Global		
	78	Population Growth	Factors Affecting			✓			Global		
	79	Quality of Life	Quantifying			✓					✓
	80	Population Density	Relationship to Economy				✓				✓
Total Number of Social Studies 20 Items				14	14	5	7	8	9	11	12

Social Studies Achievement Test

UNIT	ITEM	CONCEPT	SUB-CONCEPT	TIME				PLACE			
				Past	Present	Future	Timeless	Canada	Other	Imaginary	Universal
Conflict and Cooperation	81	Neutrality		Pre WWI					Atlantic		
	82	Symbol Identification		Pre WWI					U.S.		
	83	Neutrality	Blockades	Pre WWI					Atlantic		
	84	Nationalism	Principles				✓				✓
	85	Naziism	Racist Ideology				✓				✓
	86	Foreign Aid		1960				✓			
	87	Foreign Aid		1960					Global		
	88	Self-Determination		Post WWI					Europe		
	89	Imperialism	Economic Basis		✓				Asia		
	90	International Organizations	NATO	Post WWII					Europe		
	91	International Organizations	Warsaw Pact	Post WWII					Europe		
	92	International Organizations	NATO	Post WWII					Europe		
	93	Causes of Nuclear War	Psychological Causes		✓				Global		
	94	Nature of War	Technological Advances		✓				Global		
	95	Pacifism					✓				✓
	96	Cold War		1947 -					Global		
	97	Causes of War		WWI					Europe		
Ideologies	98	Comparative Ideologies	Socialism and Communism				✓				✓
	99	"Theory of Surplus Value"	Capitalist Role				✓				✓
	100	"Leninism"	Attitude to Capitalism				✓				✓
	101	One Party System	Class Orientation				✓				✓
	102	Private Property					✓				✓
	103	Comparative Ideologies	Communism and Socialism				✓				✓
	104	Communist States	Personal Success		✓						✓
Political Systems	105	Comparative Political Systems	Democracy & Dictatorship				✓				✓
	106	Comparative Political Systems	Democracy & Dictatorship				✓				✓
	107	Democracy	Basic Features				✓				✓
	108	Voter Apathy			✓			✓			
	109	Forms of Governments	Absolutism				✓				✓
	110	Political Stability	Economic Conditions				✓				✓
Economic Systems	111	Comparative Economic Systems					✓				✓
	112	Planned Economy	Allocation of Resources				✓				✓
	113	Private Enterprise	Method of Production				✓				✓
	114	Price System	Features				✓				✓
	115	Disposable Income	Consumption and Savings				✓				✓
	116	Command Economy	Central Authority				✓				✓
	117	Traditional Society	Decision Making				✓				✓
	118	Market System	Supply and Demand				✓				✓
	119	Private-Enterprise System	"Invisible Hand"				✓				✓
	120	Consumer Price Index	Inflationary Trends	1971-1976				✓			
Total Number of Social Studies 30 Items				12	5	0	23	3	13	0	24
Grand Total				43	39	5	33	49	25	11	38

Sample

Norming of the Social Studies Achievement Test was accomplished through a testing program to a sample of students in June 1977. Approximately 1/4, 1/3, and 1/2 of the students in Social Studies 10, 20, and 30 respectively were included in the norming. Schools were randomly assigned to administer one or more booklets of the test. Table 7, page 32, presents a breakdown of the number of schools and the number of students involved in the norming of this test. It breaks down the total sample according to social studies courses and regions of the province.

Provincial norms as well as regional norms for each social studies course level were provided. In the norm tables raw scores, percentile ranks, percentile bands, stanines, means, medians, and standard deviations were reported. Difficulty-Index tables were prepared also. All of these results based on provincial data are included in the Manual of Directions for Administering, Scoring, and Interpreting Test Results.[4]

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[4] Alberta Department of Education, Senior High School Social Studies Achievement Test: Manual of Directions for Administering, Scoring, and Interpreting Test Results, 1978.

Table 7

Norming Samples of Students and Schools by Region*

Course Level	Students and Schools	Provincial	Region 1	Region 2	Region 3	Region 4	Region 5	Region 6	Region 7	Region 8
S.S. 10	# of Students	2,838	272	271	262	279	230	310	438	776
	# of Schools	49	8	7	7	6	7	8	3	3
S.S. 20	# of Students	2,093	221	219	283	207	150	179	289	545
	# of Schools	47	7	7	8	5	7	7	3	3
S.S. 30	# of Students	1,717	207	215	92	121	161	186	361	374
	# of Schools	51	9	6	6	6	9	7	4	4

*Regions are identified as follows:

Region 1: Grande Prairie and area
Region 2: Edmonton area (North)
Region 3: Edmonton area (South)
Region 4: Red Deer and area
Region 5: Calgary area
Region 6: Lethbridge and area
Region 7: Edmonton city
Region 8: Calgary city

VALIDITY

The Social Studies Achievement Tests are measures of developed skills and knowledge. As a result their content validity is of prime importance. Throughout all stages of the development of these tests, special effort was made to insure the involvement of well-qualified people to judge the relationship of test content to teaching objectives. Social studies educators from all parts of the province were involved in the Planning Committee which identified the kinds of learning which could be regarded as central and continuous to the "new" social studies program. Then item-building committees, consisting of competent practising teachers from every region of the province, devised a great variety of test items based on those kinds of learning. Furthermore, the many social studies teachers who were involved in the field testing of the items provided valuable and pertinent comments on the items. A more comprehensive account of the procedures employed in the planning, item-building, and field-testing stages of the construction of the social studies achievement tests is provided in a previous section of this chapter.

Finally, item validity was established statistically through the use of item analysis. Each item was examined and evaluated in terms of its difficulty and its effectiveness in discriminating between high and low achieving students.

Items included in the final forms of the achievement tests have both characteristics: content validity and statistical validity.

RELIABILITY

The reliabilities reported for the Social Studies Achievement Tests (Form A) were obtained by employing the Kuder-Richardson Formula 20. The reliability for each course level was as follows:

Social Studies 10	.81
Social Studies 20	.88
Social Studies 30	.92

It should be noted that the reliabilities of the three tests, are based on different numbers of items. In order to make these reliabilities comparable it was necessary to estimate the new reliabilities of Social Studies 10 and Social Studies 20. This was accomplished by equating the numbers of items in Social Studies 10 and Social Studies 20 to that of Social Studies 30. The Spearman-Brown formula was used. Results are as follows:

Social Studies 10	.93
Social Studies 20	.92

In general, for tests developed on a large scale such as the province-wide social studies tests, reliabilities greater than .80 are considered good while those greater than .90 are considered excellent. Reliability estimates of .80 or greater are generally recommended for achievement tests.

Chapter 4

RESULTS

The data obtained in the June 1977 norming program were analysed according to the content variables shown in Table 5, page 27. The following analyses were performed.

Analysis 1: Analysis of Total Tests

The total tests for the different course levels of students were as follows: The Social Studies 10 test consisted of items 1 to 40 described in Table 6, the Social Studies 20 test comprised items 1 to 80 inclusive, and the Social Studies 30 test was made up of the complete 120 items found on this table.

Analysis 2: Analysis of Item Levels

This analysis is based on each section of 40 items, constructed from the content of each course level.

Analysis 3: Analysis of Content Area

The analysis is based on each of the 11 content areas as identified in the unit column of Table 6 on pages 28 to 30.

Analysis 4: Analysis of Canadian Content

Items related to Canadian content were identified. This

consisted of 49 items from the following levels:

Social Studies 10	-	All 38 items
Social Studies 20	-	8 items
Social Studies 30	-	3 items
TOTAL		49 items

These items are identified under the column "Place -- Canada" of Table 6.

Analysis 5: Analysis of Processing Skills

Items were identified according to the Taxonomy of Social Studies Skills found in Appendix 3. In this analysis items were classified according to the following major categories:

Recall

Acquire and Organize

Interpret

Analyze, Evaluate and Synthesize

Classification of items according to the taxonomy of Social Studies Skills can be found in Table 5 (Table of Specifications) on page 27.

ANALYSIS 1: ANALYSIS OF TOTAL TESTS

The summary statistics for the total test for each course level are presented in Table 8. The mean, median, standard deviation and standard error of measurement for each course level are based on the total test for that level.

Mean scores may be considered as students' achievement in social studies on a provincial level in 1977. The mean scores and median scores are given in the forms of both raw scores and percentages. Since the length and content differ with each level's total test, comparisons of statistics among course levels require a great deal of caution.

Table 8

Summary Statistics of Social Studies Tests

Level of Students	Number of Students	Level of Items	Number of Items	Mean		Median		Standard Deviation (raw score)	Standard Error of Measurement (raw score)
				Raw Score	%	Raw Score	%		
S.S. 10	2838	S.S. 10	40	20.55	51.38	20.07	50.18	6.99	3.05
S.S. 20	2093	S.S. 10 & S.S. 20	80	44.62	55.78	43.72	54.65	12.41	4.25
S.S. 30	1717	S.S. 10 & S.S. 20 & S.S. 30	120	67.67	56.39	66.07	55.06	17.85	5.18

Table 9 presents the percentage of Grade 12 students who answered each item correctly. This table also shows the average scores of this group of students based on Social Studies 10 items, Social Studies 20 items and Social Studies 30 items. This analysis formed the basis for subsequent analyses through respective groupings.

Table 9

ITEM DIFFICULTY (PROVINCIAL DATA) LEVEL 30

ITEM	ITEM	ITEM	ITEM	ITEM	ITEM
1. 66	21. 54	41. 57	61. 53	81. 60	101. 51
2. 62	22. 79	42. 38	62. 50	82. 75	102. 49
3. 67	23. 73	43. 35	63. 46	83. 36	103. 41
4. 44	24. 87	44. 74	64. 51	84. 56	104. 61
5. 87	25. 59	45. 80	65. 27	85. 45	105. 38
6. 55	26. 69	46. 75	66. 37	86. 50	106. 56
7. 45	27. 89	47. 55	67. 62	87. 37	107. 30
8. 68	28. 45	48. 55	68. 54	88. 36	108. 39
9. 66	29. 43	49. 64	69. 63	89. 43	109. 43
10. 64	30. 68	50. 63	70. 32	90. 51	110. 54
11. 40	31. 55	51. 46	71. 40	91. 54	111. 41
12. 67	32. 53	52. 73	72. 45	92. 44	112. 31
13. 55	33. 51	53. 77	73. 74	93. 47	113. 60
14. 56	34. 57	54. 59	74. 61	94. 50	114. 56
15. 83	35. 78	55. 50	75. 61	95. 46	115. 54
16. 69	36. 83	56. 53	76. 69	96. 63	116. 53
17. 79	37. 67	57. 38	77. 72	97. 44	117. 51
18. 61	38. 86	58. 41	78. 73	98. 47	118. 50
19. 48	39. 76	59. 61	79. 66	99. 61	119. 33
20. 71	40. 80	60. 47	80. 62	100. 35	120. 42

		NO. OF ITEMS	MEAN
LEVEL 10 ITEMS	1 to 40 inclusive	40	26.15
LEVEL 20 ITEMS	41 to 80 inclusive	40	22.39
LEVEL 30 ITEMS	81 to 120 inclusive	40	19.13
TOTAL TEST		120	67.67

ANALYSIS 2: ANALYSIS OF ITEM LEVELS

As was mentioned in the previous chapter the test was divided into three sections as follows:

Section I -- Social Studies 10 Content -- 40 items

Section II -- Social Studies 20 Content -- 40 items

Section III -- Social Studies 30 Content -- 40 items

Average scores based on each section, achieved by each group of students are presented in Figure 3 on page 41. It should be noted that mean scores based on Section I are shown for each level of students. For Section II, mean scores of Social Studies 20 students and Social Studies 30 students are presented. The mean score for only the Social Studies 30 students is shown for Section III.

Results of this analysis revealed that:

1. Based on Social Studies 10 items, Social Studies 20 students did better than Social Studies 10 students and Social Studies 30 students did better than both Social Studies 10 and Social Studies 20 students.

2. Based on Social Studies 20 items, Social Studies 30 students did better than Social Studies 20 students.

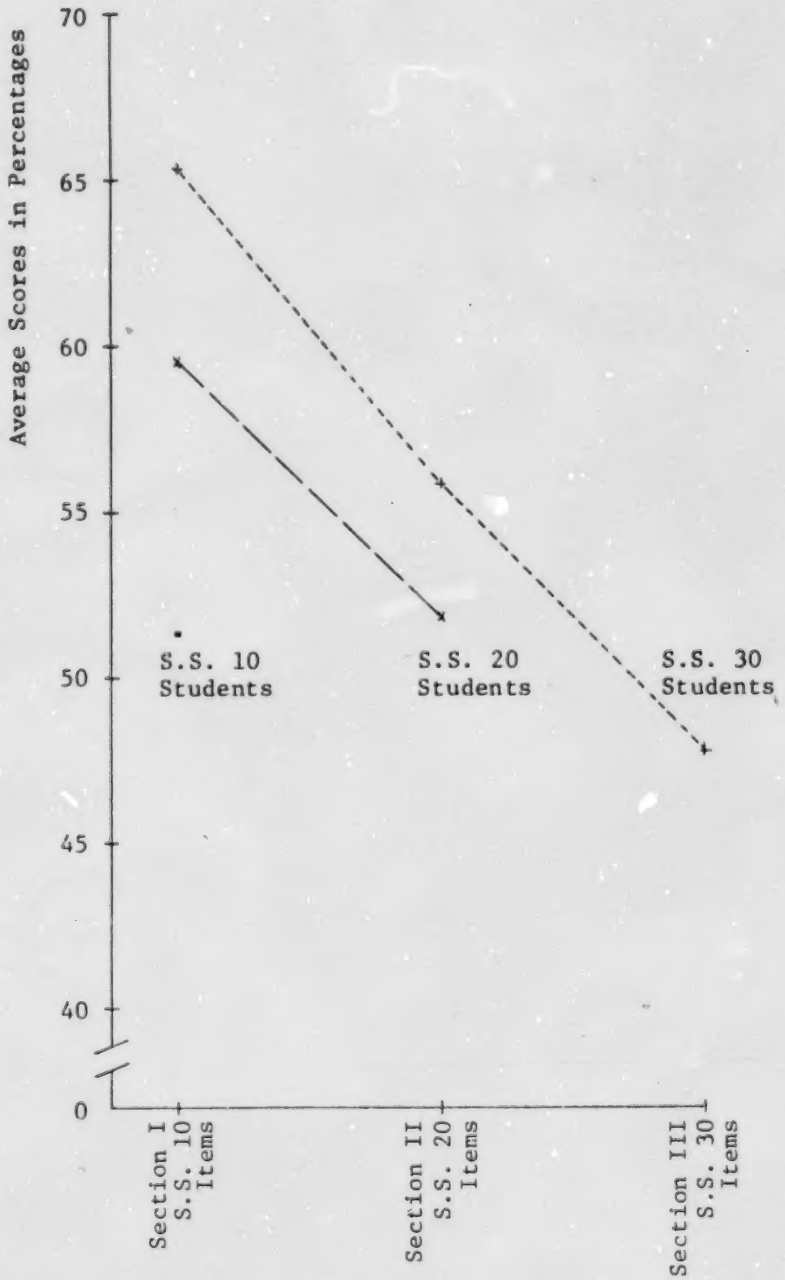
3. Social Studies 20 students did better on Social Studies 10 items than on their own items.

4. Social Studies 30 students did best on Social Studies 10 items and did better on Social Studies 20 items than their own items.

From the results noted above it would appear that social

Figure 3

Average Scores Based on Each Section of the Test



studies students retained the knowledge and skills taught to them at earlier course levels.

ANALYSIS 3: ANALYSIS OF CONTENT AREAS

The test was broken down into subtests according to content areas. Data were analyzed to compare average scores and achievement at three criterion levels.

Average Scores

The average scores achieved by each group of students based on each content area were computed and are presented in Figure 4.

Results of the analysis based on Social Studies 10 content area revealed that:

1. Social Studies 20 students did better than Social Studies 10 students on all content areas relating to Social Studies 10.

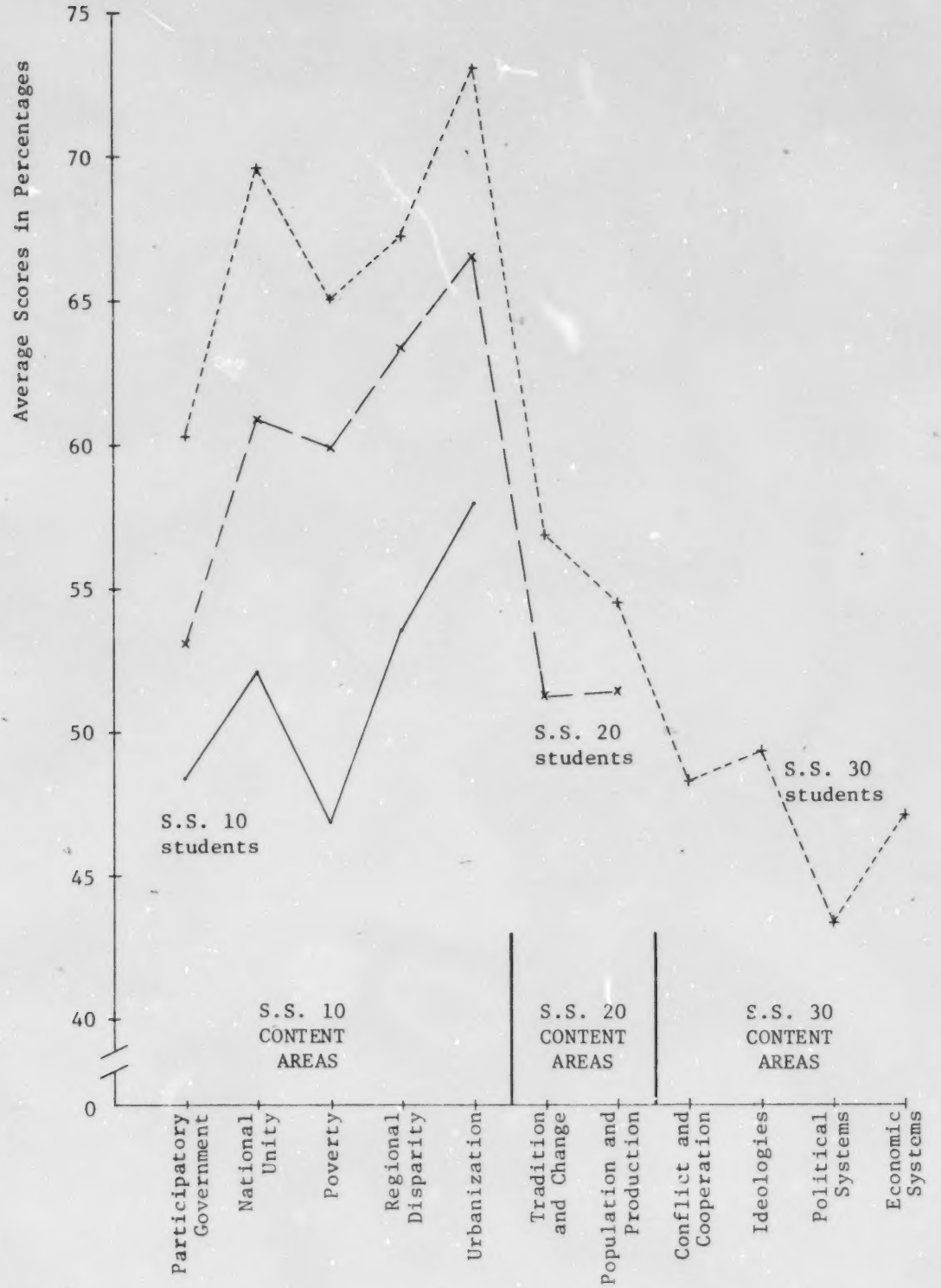
2. Social Studies 30 students did better than Social Studies 10 students and Social Studies 20 students on all content areas relating to Social Studies 10 content.

3. All three groups of students exhibited similar patterns of levels of achievement on the five Social Studies 10 content areas.

4. Comparison of achievement levels of the five Social Studies 10 content areas reveals that all three groups of students achieved highest on "Urbanization". Since "Urbanization" consisted of only two items, however, interpretations and

Figure 4

Average Scores Based on Content Areas



conclusions based on this category require a great deal of caution. Results for the other four content areas show that all three groups of students achieved higher average scores on "National Unity" and "Regional Disparity" than they did on "Participatory Government" and "Poverty".

Based on Social Studies 20 content areas, it was found that:

1. Social Studies 30 students did better than Social Studies 20 students on both content areas.

2. Social Studies 20 students' achievement on "Tradition and Change" was as high as on "Population and Production" while Social Studies 30 students' achievement on "Tradition and Change" was higher than on "Population and Production".

On the four content areas relating to Social Studies 30, the achievement for Social Studies 30 students on "Conflict and Cooperation" is virtually as high as on "Ideologies". They achieved lowest on "Political Systems".

Criterion Levels

An analysis of each content area was undertaken to determine the percentages of Social Studies 10, Social Studies 20 and Social Studies 30 students who obtained scores greater than or equal to three criterion levels. The three criterion levels selected for this analysis were as follows:

50 percent or higher

65 percent or higher

80 percent or higher

Social Studies 10 Content Areas

All Social Studies 10 content areas with the exception of "Urbanization" were analyzed. Urbanization is not reported since it contained only two items on the test. Results for the four content areas are presented in Figures 5, 6, 7, and 8.

Participatory Government. Percentages of each group of students who achieved marks of 50 percent or higher, 65 percent or higher and 80 percent or higher on the 13 items relating to "Participatory Government" of the Social Studies 10 program are presented in Figure 5.

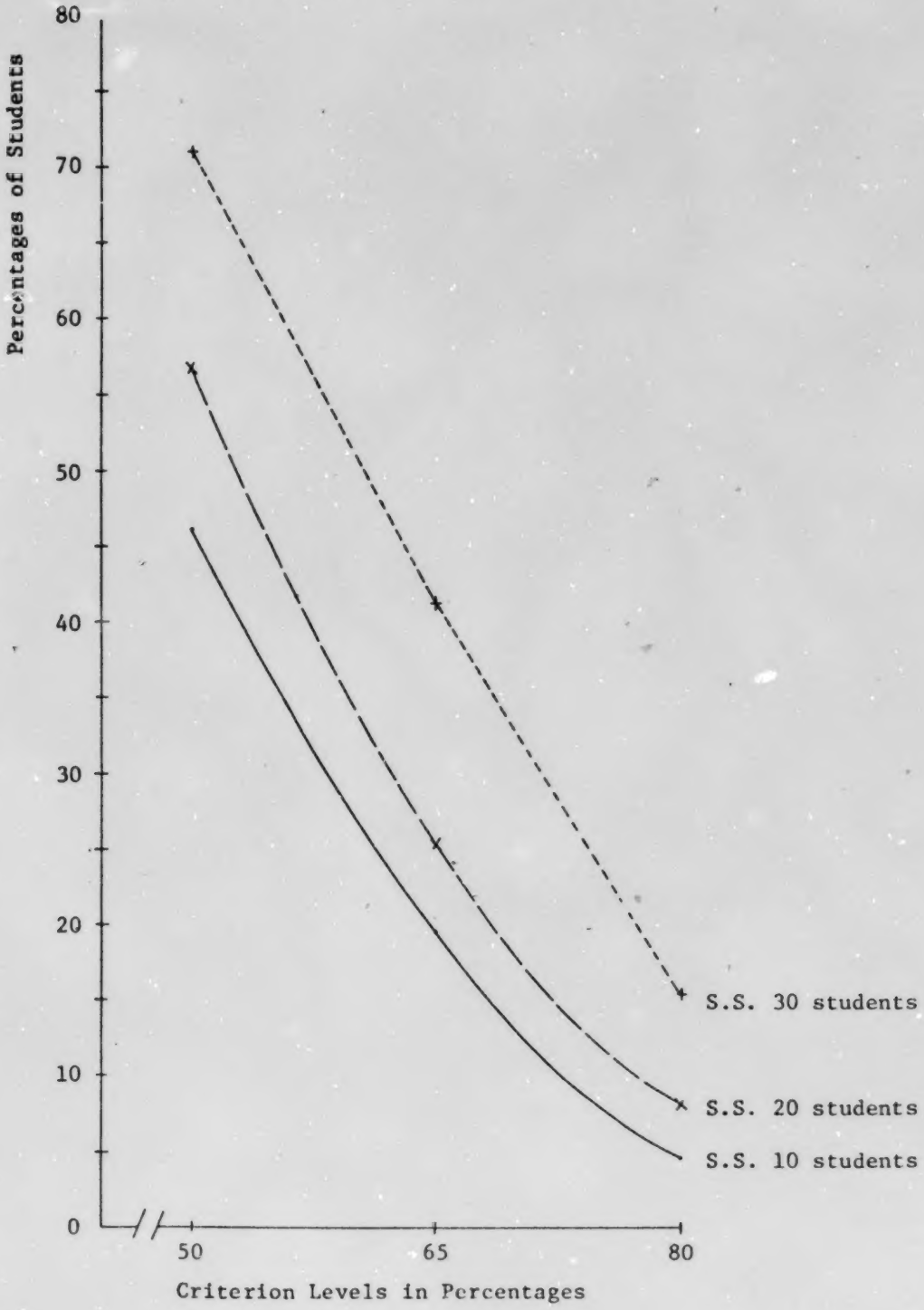
The graph illustrates that the three curved lines indicating percentages of Social Studies 10 students, Social Studies 20 students and Social Studies 30 students at the three criterion levels are virtually parallel.

At all three criterion levels of achievement, the percentage of Social Studies 30 students is the greatest and the percentage of Social Studies 10 students is the smallest. The difference of percentages of students is more pronounced between Social Studies 30 students and Social Studies 20 students. The difference among all groups of students is more pronounced at the 50 percent level of achievement than at the 80 percent level of achievement.

Seventy-one percent of the Social Studies 30 students achieved a mark of 50 percent or higher, 41 percent achieved a mark of 65 percent or better with 15 percent obtaining an 80 percent or higher level of competency.

Figure 5

Percentages of Students at Three Criterion Levels
on Participatory Government (Social Studies 10)



National Unity. Due to the small number of items relating to this content area, it was possible to investigate student achievement at only two criterion levels, the 50 percent level and the 80 percent level.

Percentages of each group of students at the two criterion levels of achievement on the 5 items relating to "National Unity" of the Social Studies 10 program are presented in Figure 6.

It may be seen from the graph that at all three criterion levels of achievement, the percentage of Social Studies 30 students is the highest while the percentage of Social Studies 10 students is the lowest.

The curved lines for the Social Studies 30 students and the Social Studies 10 students are parallel being 26 percentage points apart.

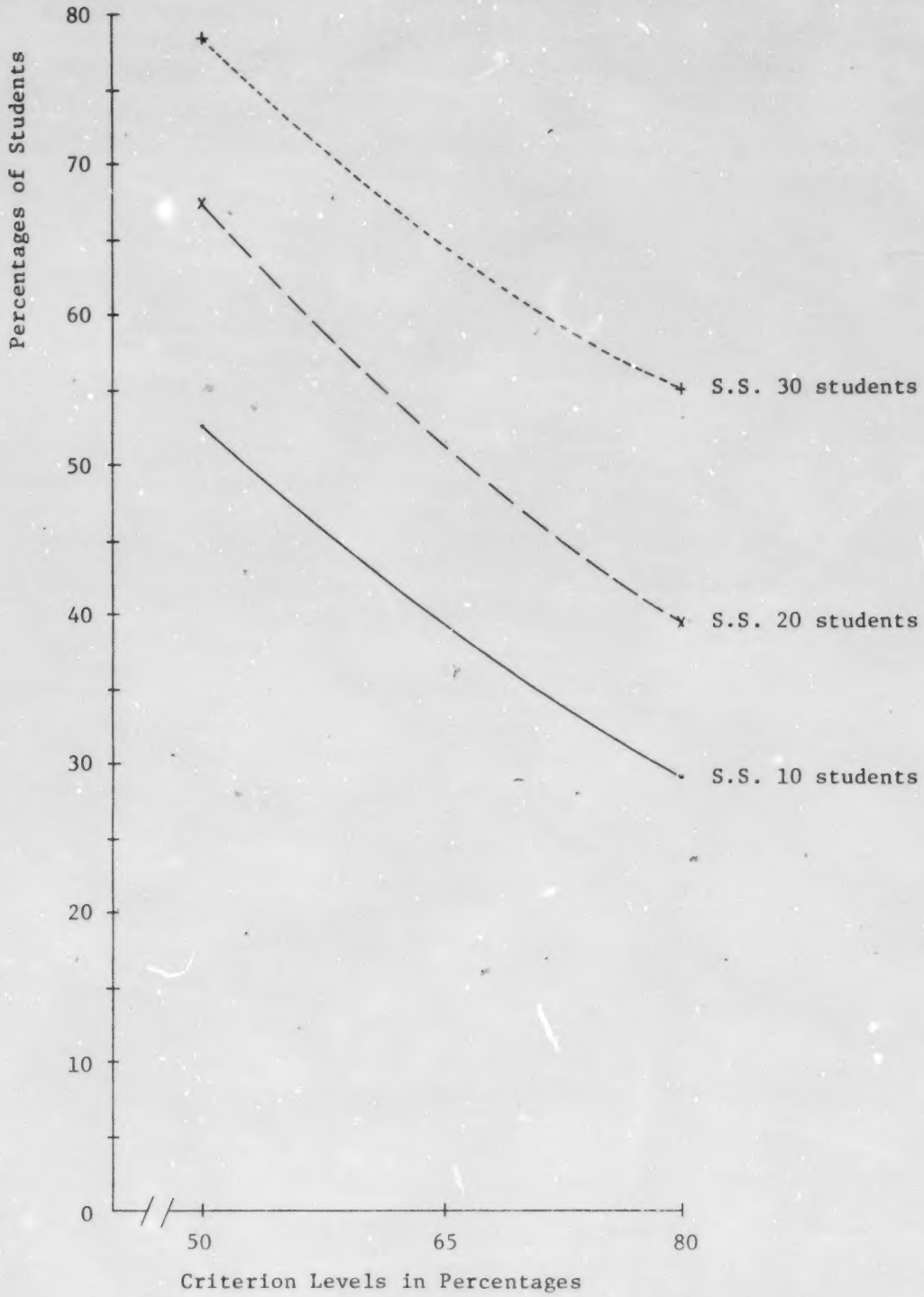
At the 50 percent level of achievement, Social Studies 20 is separated by 10 percentage points from Social Studies 30 and 16 percentage points from Social Studies 10. At the 80 percent level of achievement these distances are reversed.

Seventy-eight percent of the Social Studies 30 students achieved a mark of 50 percent or higher while 55 percent obtained an 80 percent or higher level of competency.

Poverty. Similarly to the previous content area, the small number of items relating to "Poverty" of the Social Studies 10 program made it possible to report on student achievement at only the two criterion levels of 50 percent and 80 percent. Percentages of each group of students who achieved scores at these two criterion

Figure 6

Percentages of Students at Three Criterion Levels on National Unity (Social Studies 10)



levels are presented in Figure 7.

From the graph it may be seen that at both of the criterion levels of achievement the percentage of Social Studies 30 students is the highest while that of the Social Studies 10 students is the lowest.

The difference between percentages of Social Studies 20 students and Social Studies 10 students at both criterion levels of achievement is more pronounced than the difference between the percentages of Social Studies 20 students and Social Stuiies 30 students.

Seventy-two percent of Social Studies 30 students achieved a mark of 50 percent or higher while 47 percent obtained a mark of 80 percent or higher.

Regional Disparity. Percentages of each group of students at the three criterion levels of achievement on the 15 items relating to "Regional Disparity" of the Social Studies 10 program are presented in Figure 8.

From the graph in Figure 8 it may be seen that at all three criterion levels, the percentage of Social Studies 30 students is the highest, while that of Social Studies 10 students is the lowest. The difference between percentages of Social Studies 20 students and Social Studies 10 students at all three levels of achievement is greater than the difference between the percentages of Social Studies 30 students and Social Studies 20 students.

Figure 7

Percentages of Students at Three Criterion Levels on Poverty (Social Studies 10)

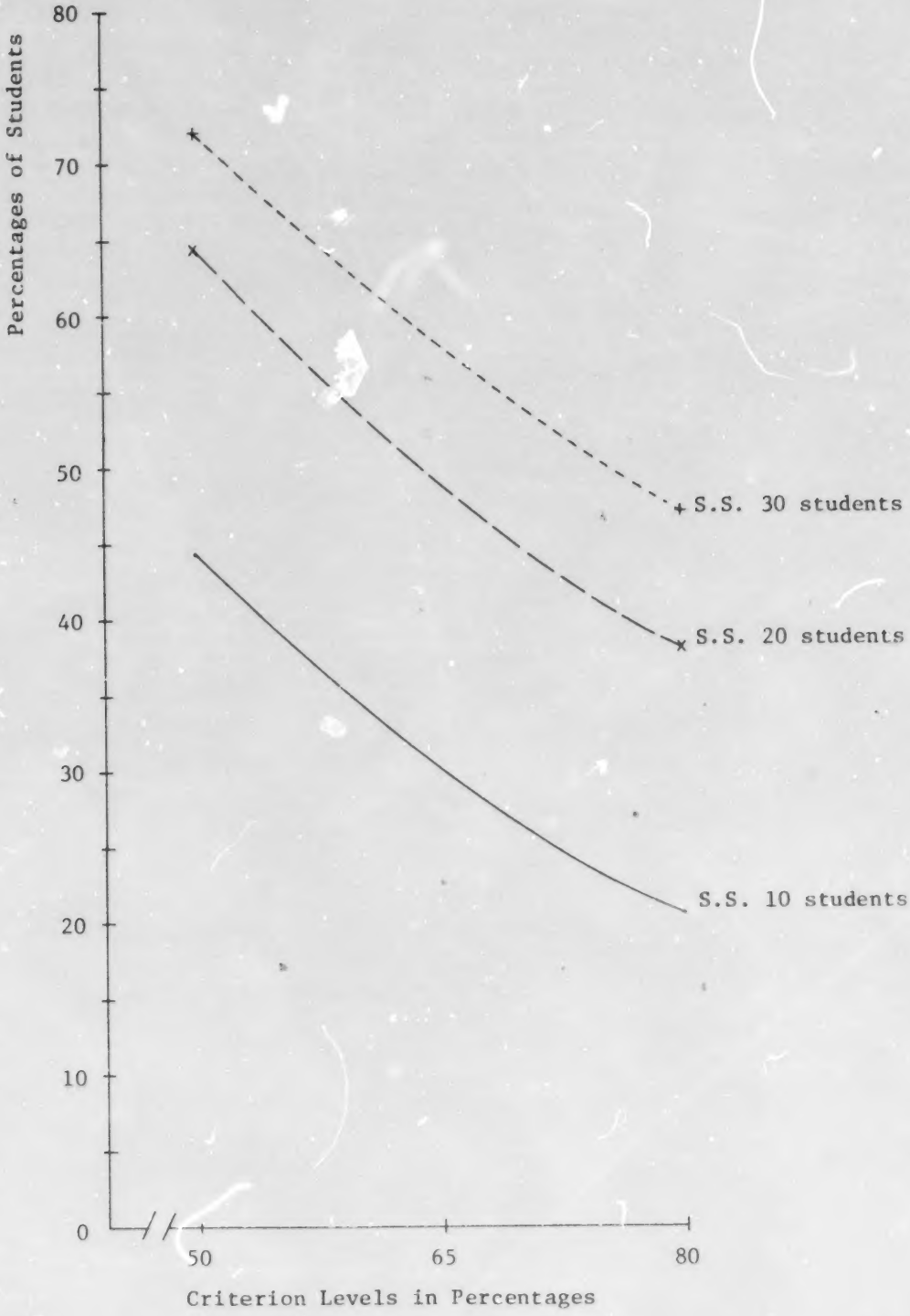
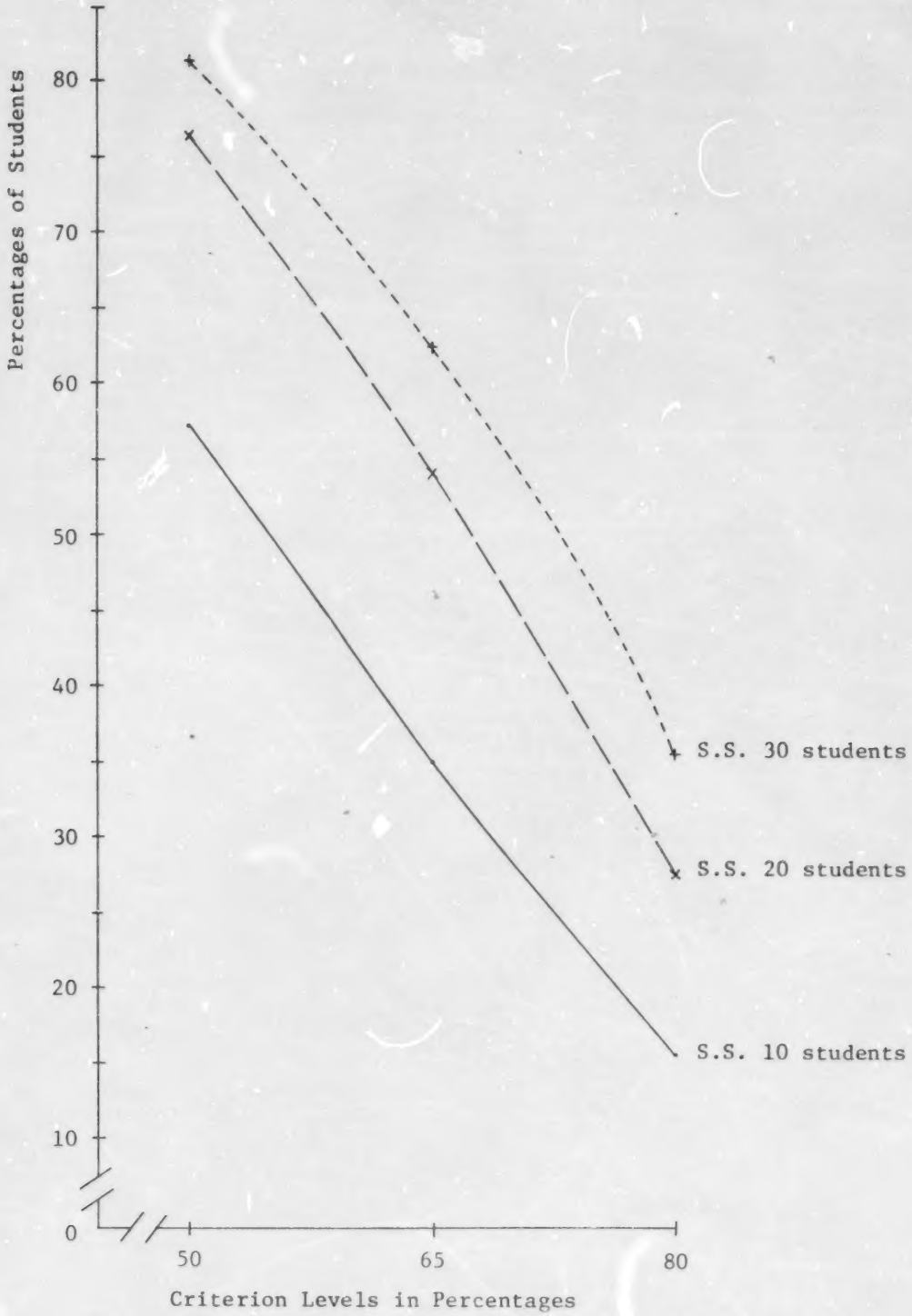


Figure 8

Percentages of Students at Three Criterion Levels
on Regional Disparity (Social Studies 10)



Eighty-one percent of the Social Studies 30 students achieved a mark of 50 percent or higher, 62 percent achieved a mark of 65 percent or better with 35 percent obtaining an 80 percent or higher level of competency.

Conclusions. Based on the analyses of the separate Social Studies 10 content areas, the following conclusions may be drawn:

1. At all three criterion levels of achievement, the percentage of Social Studies 30 students is the greatest and that of Social Studies 10 students is the smallest.

2. At the 50 percent level of achievement the highest percentage of students were found on "Regional Disparity" while the lowest percentages were found on "Participatory Government".

3. At the 80 percent level of achievement the highest percentages were found on "National Unity" while the lowest percentages were found on "Participatory Government".

4. The degree of difference of percentages between the three groups of students are not consistent across the four content areas.

a. On "Participatory Government", the difference is more pronounced between Social Studies 20 students and Social Studies 30 students. On the other hand, on "Poverty" and "Regional Disparity" the differences are more pronounced between Social Studies 20 students and Social Studies 10 students.

b. On "National Unity", the difference between percentages of Social Studies 30 students and Social Studies 20 students is about the same as the difference of percentages between Social Studies 20 and Social Studies 10 students.

Social Studies 20 Content Areas

Tradition and Change. Percentages of Social Studies 20 students and Social Studies 30 students at the three criterion levels of achievement on the 20 items relating to "Tradition and Change" of the Social Studies 20 program are presented in Figure 9.

The graph shows that the percentage of Social Studies 30 students is higher than that of Social Studies 20 students at all three criterion levels of achievement.

Sixty-nine percent of the Social Studies 30 students achieved a mark of 50 percent or higher, 41 percent achieved a mark of 65 percent or better with 14 percent obtaining an 80 percent or higher level of competency.

Population and Production. Percentages of Social Studies 20 students and Social Studies 30 students at the three criterion levels of achievement on the 20 items relating to "Population and Production" of the Social Studies 20 program are presented in Figure 10.

The graph shows that the percentage of Social Studies 30 students is higher than that of Social Studies 20 students at all three criterion levels of achievement.

Figure 9

Percentages of Students at Three Criterion Levels
on Tradition and Change (Social Studies 20)

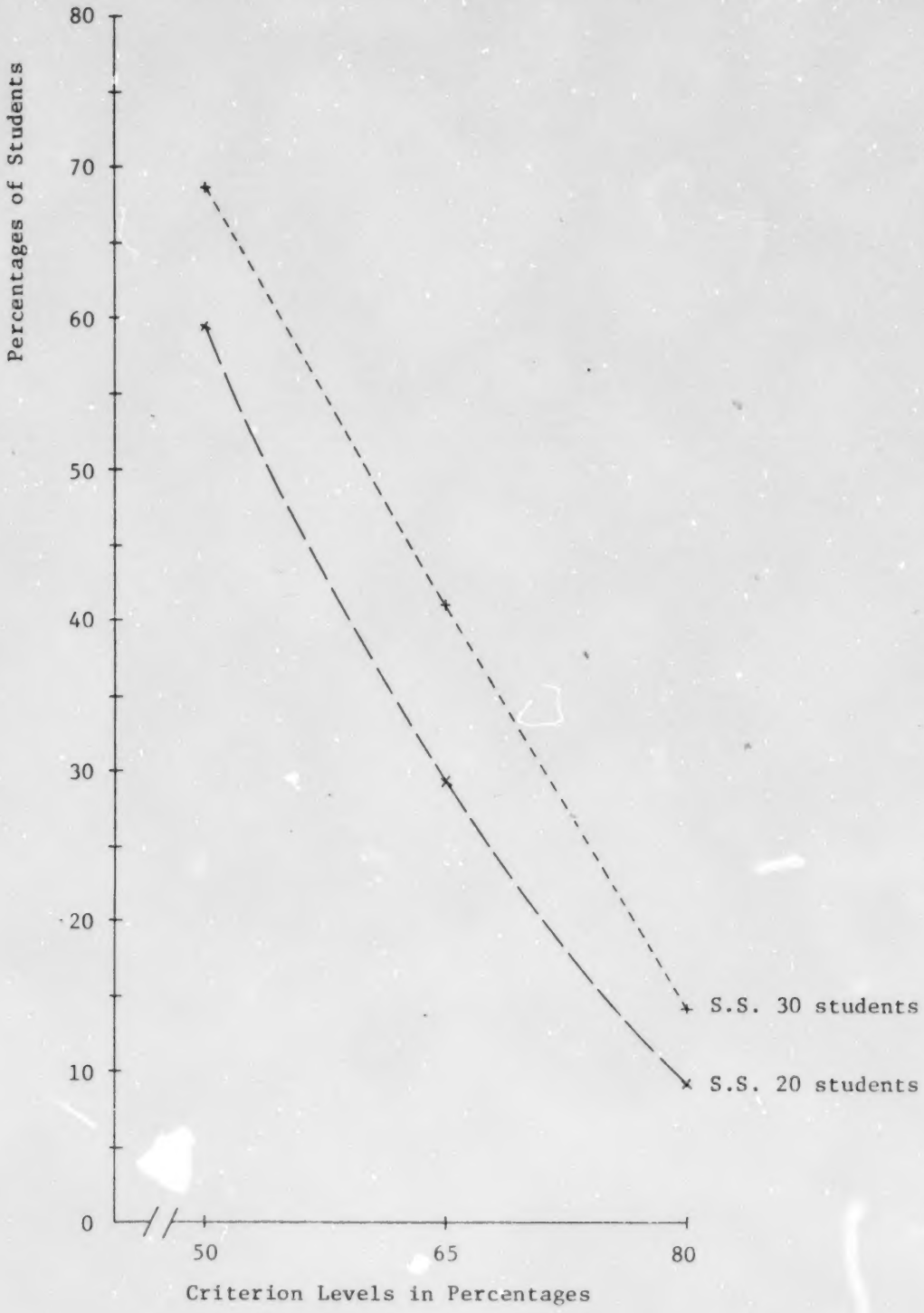
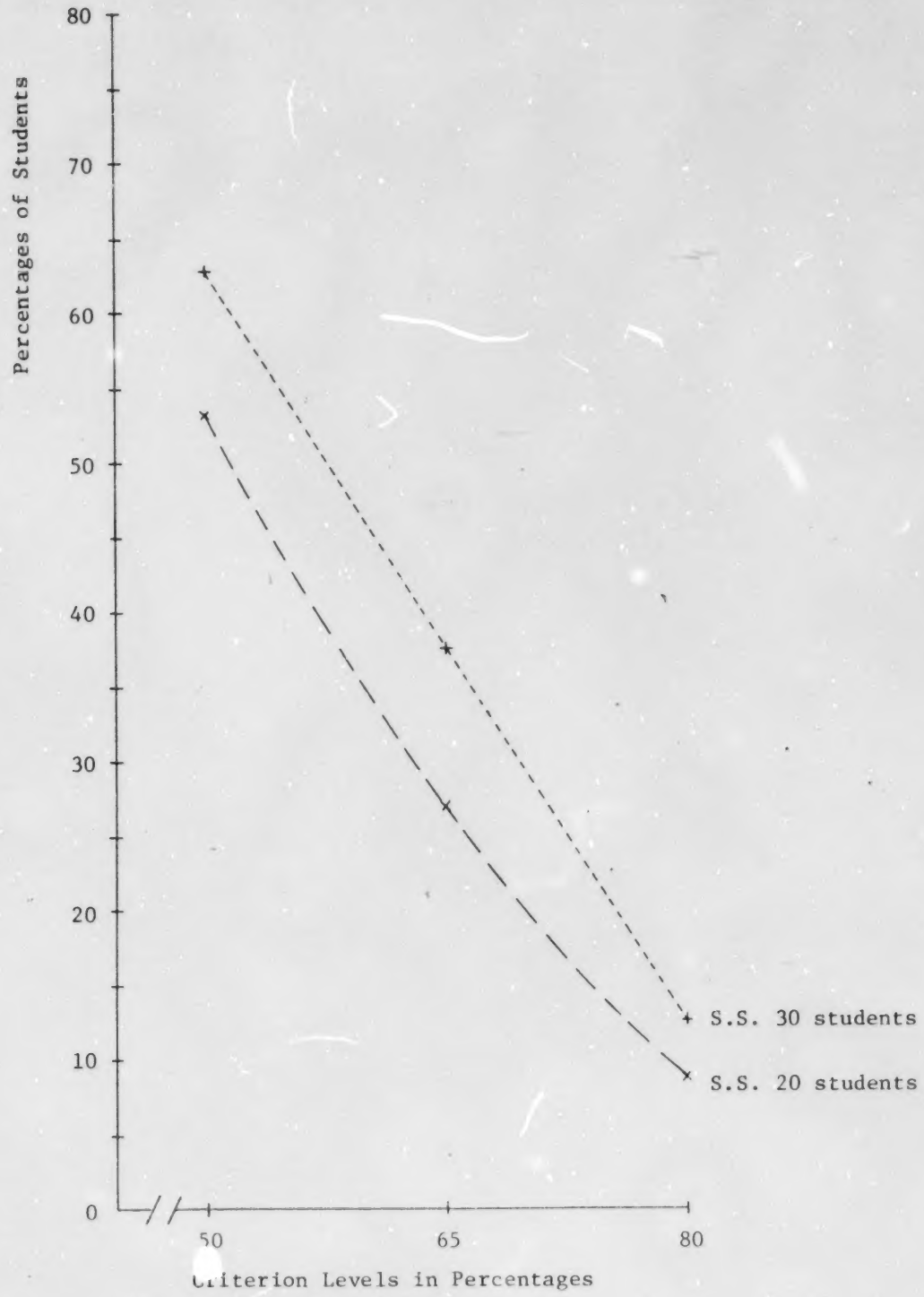


Figure 10

Percentages of Students at Three Criterion Levels on Population and Production (Social Studies 20)



Sixty-three percent of Social Studies 30 students achieved a mark of 50 percent or higher, 38 percent achieved a mark of 65 percent or better with 13 percent obtaining an 80 percent or higher level of competency.

Conclusions. Based on these two analyses, the following conclusions may be drawn:

1. The percentage of Social Studies 30 students is greater than that of Social Studies 20 students at all three criterion levels of achievement.

2. Percentages of both groups of students are higher on "Tradition and Change" than on "Population and Production" at all three criterion levels of achievement.

Social Studies 30 Content Areas

Percentages of Social Studies 30 students at the three criterion levels for all four content areas are presented in Table 10 on page 57.

On the basis of these results, Social Studies 30 students found their content areas difficult. As may be seen in Table 10, fewer than 50 percent of the students obtained scores of 50 percent or higher on each Social Studies 30 content area.

Table 10

Percentages of Social Studies 30 Students
at the Three Criterion Levels

Content Areas	Number of Items	Percentages of Students		
		at 50% or higher	at 65% or higher	at 80% or higher
Conflict and Cooperation	17	45.20	26.62	7.22
Ideologies	7	46.53	26.85	12.17
Political Systems	6	47.76	26.73	10.60
Economic Systems	10	45.43	21.37	12.11

ANALYSIS 4: ANALYSIS OF CANADIAN CONTENT

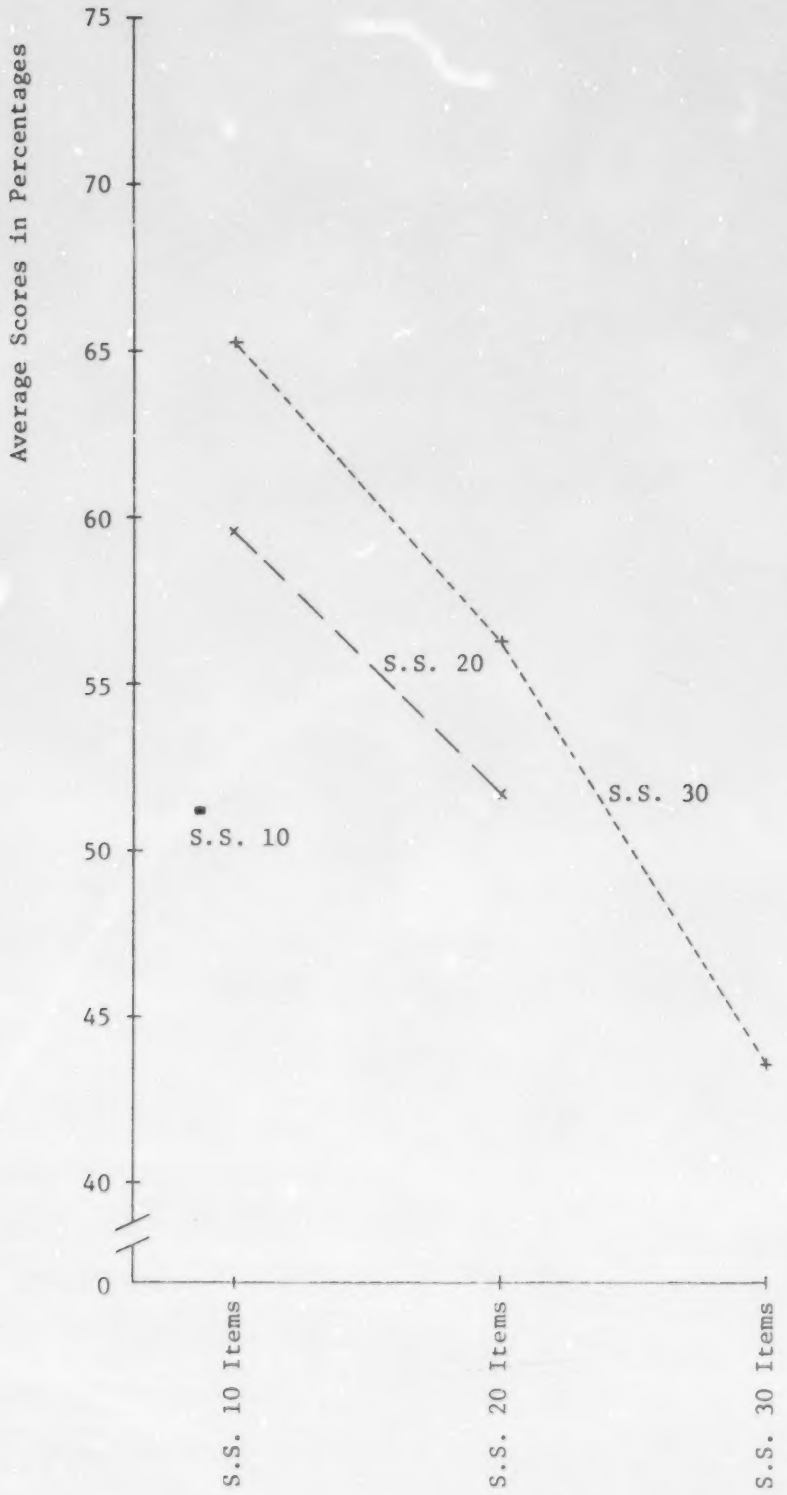
Items related to Canadian content were identified (See Table 6). Thirty-eight out of 40 Social Studies 10 items, 8 out of 40 Social Studies 20 items and 3 out of 40 Social Studies 30 items were classified as relating to Canadian content. Data were analyzed to compare average scores and achievement at three criterion levels.

Average Scores

Average scores achieved by Social Studies 10 students, Social Studies 20 students and Social Studies 30 students were computed according to the Canadian content specified above. The results are presented in Figure 11.

Figure 11

Average Scores Based on Canadian Content



Results of the analysis revealed that:

1. Based on Canadian content at the Social Studies 10 level, Social Studies 20 students did better than Social Studies 10 students and Social Studies 30 students did better than Social Studies 10 and Social Studies 20 students.

2. Based on Canadian content at Social Studies 20 level, Social Studies 30 students did better than Social Studies 20 students.

3. Social Studies 20 students did better on Canadian content at Social Studies 10 level than at Social Studies 20 level.

4. Social Studies 30 students did best on Canadian content at the Social Studies 10 level and they did better at the Social Studies 20 level than at their own level.

From the results reported in this analysis it would appear that social studies students retained the knowledge and skills related to Canadian content taught to them at earlier course levels. It should be noted, however, that Canadian content at the Social Studies 30 level consisted of only 3 items. Any interpretations or conclusions based on Canadian content at this level require a great deal of caution.

A comparison of achievement based on items relating to Canadian content and items not relating to Canadian content was considered. However, it was concluded that a meaningful

comparison could not be made due to the following factors:

1. At the Social Studies 10 level all but 2 items were classified as relating to Canadian content, consequently, a comparison was not meaningful for this level.

2. At the Social Studies 20 and the Social Studies 30 levels, the number of items relating to Canadian content were small relative to the numbers of items classified as not relating to Canadian content.

In addition, the thirty-eight items classified as "Universal" have a bearing on Canadian content, but they were not included in the category of those relating to Canadian content.

Criterion Levels

Further analyses of items relating to Canadian content at the Social Studies 10 and the Social Studies 20 levels were undertaken to determine percentages of each group of students who obtained scores greater than or equal to three criterion levels (50 percent or higher, 65 percent or higher and 80 percent or higher).

An analysis based on items relating to Canadian content at the Social Studies 30 level was not performed due to the very small number of items relating to Canadian content at this level.

Canadian Content at Social Studies 10 Level

Percentages of all three groups of students who achieved marks of 50 percent or higher, 65 percent or higher and 80 percent or higher on the 38 items classified as relating to Canadian

content at the Social Studies 10 level are presented in Figure 12.

The graph shows that at all three criterion levels, the percentage of Social Studies 30 students is the greatest while the percentage of Social Studies 10 students is the smallest. The difference between percentages of Social Studies 30 students and Social Studies 20 students is about the same as the difference between Social Studies 20 students and Social Studies 10 students.

Eighty-three percent of the Social Studies 30 students achieved a mark of 50 percent or higher, 56 percent achieved a mark of 65 percent or better with 19 percent obtaining an 80 percent or higher level of competency.

Canadian Content at Social Studies 20 Level

Percentages of Social Studies 20 students and Social Studies 30 students at the three criterion levels on the 8 items relating to Canadian content at the Social Studies 20 level are presented in Figure 13.

The graph shows that the percentage of Social Studies 30 students is higher than that of Social Studies 20 students at all three criterion levels. The difference between percentages of the two groups consistently increased at the higher levels of achievement.

Sixty-nine percent of the Social Studies 30 students achieved a mark of 50 percent or higher, 31 percent achieved a mark of 65 percent or better with 16 percent obtaining an 80 percent or higher level of competency.

Figure 12

Percentages of Students at Three Criterion Levels on Canadian Content at Social Studies 10 Level

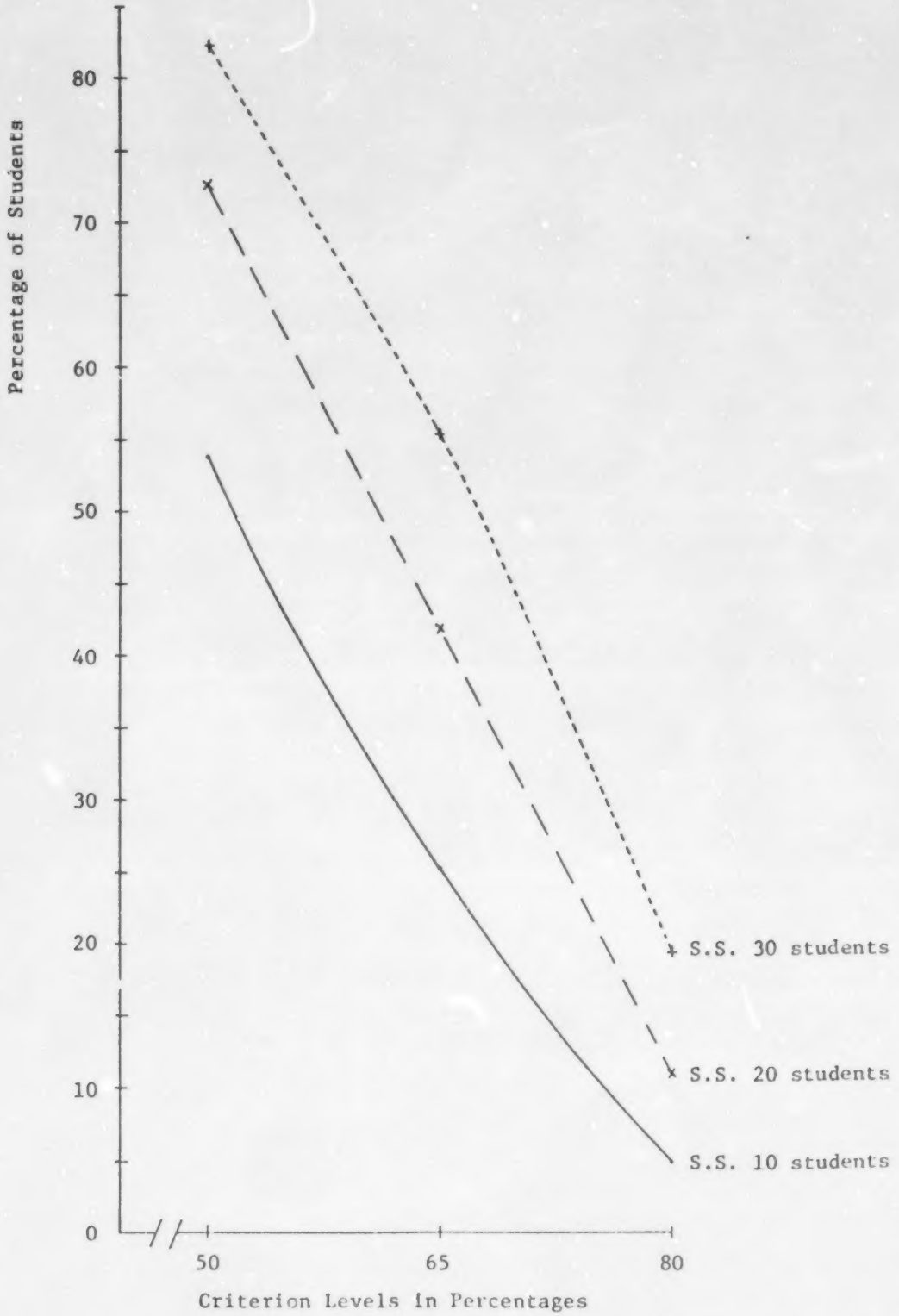
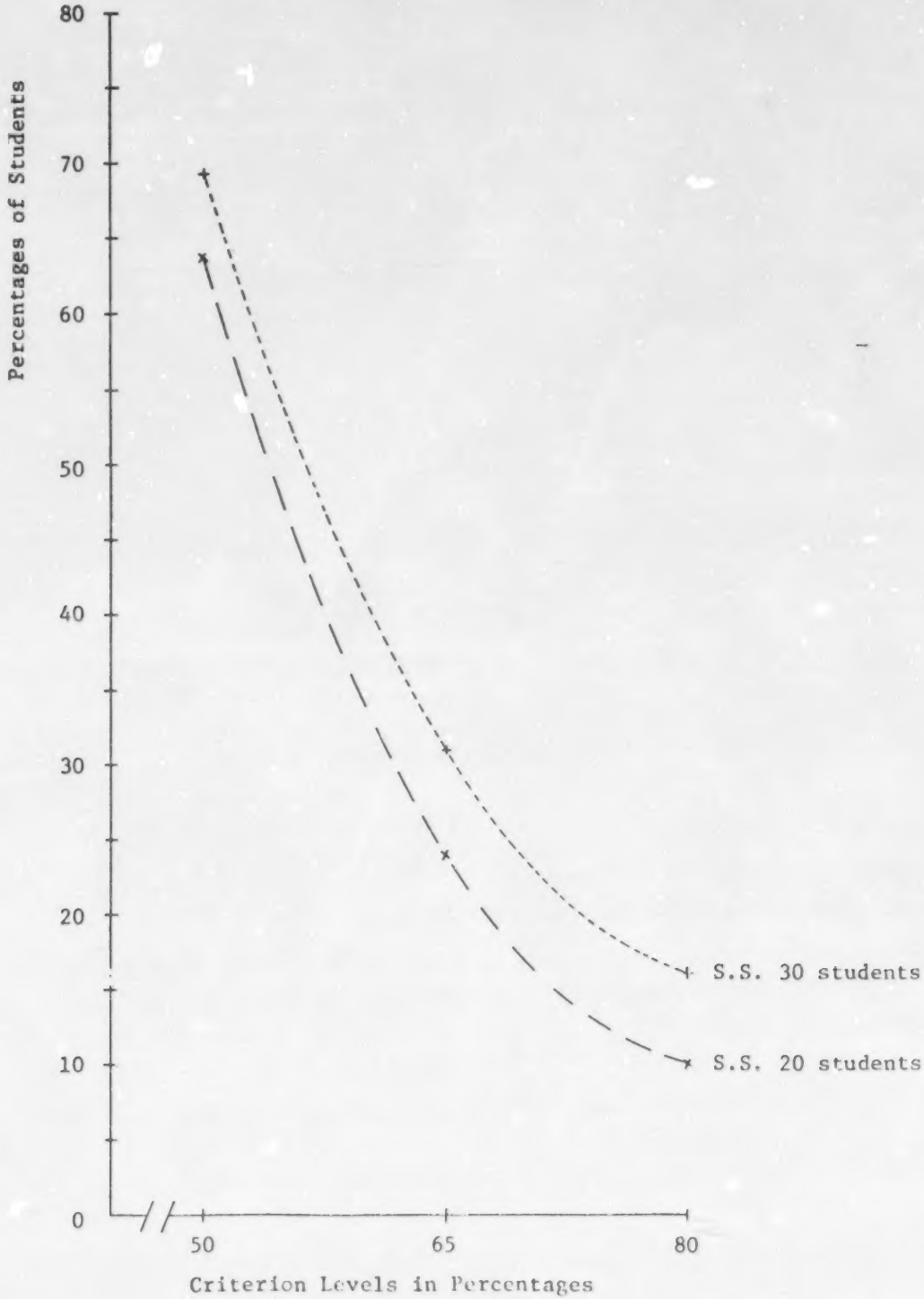


Figure 13

Percentages of Students at Three Criterion Levels on Canadian Content at Social Studies 20 Level



Conclusions

Based on the analyses on items relating to Canadian content at the Social Studies 10 level and the Social Studies 20 level it can be concluded that at all three criterion levels of achievement the percentage of Social Studies 30 students is the highest while that of Social Studies 10 students is the lowest.

It appears that social studies students retained the knowledge and skills related to Canadian content taught to them at earlier course levels.

ANALYSIS 5: ANALYSIS OF PROCESSING SKILLS

Items were classified according to the following categories:

Recall

Acquire and Organize

Interpret

Analyze, Evaluate and Synthesize

The three categories of: Acquire and Organize; Interpret; and Analyze, Evaluate and Synthesize are based on the Taxonomy of Social Studies Skills found in Appendix 3.

Table 5 (Table of Specifications) on page 27 provides a classification of the items according to the above four categories. Table 11, on page 65, presents a distribution of items according to the four categories and course levels.

Average scores based on each processing skill category within each course level were computed for each group of students.

Table 11

Distribution of Items According to Processing Skills and Course Levels

	S.S. 10 CONTENT	S.S. 20 CONTENT	S.S. 30 CONTENT
Recall	6	2	16
Acquire and Organize	13	6	6
Interpret	13	10	9
Analyze, Evaluate and Synthesize	8	22	9
Total	40	40	40

Results are presented in Figure 14 on page 66.

Results of this analysis revealed that:

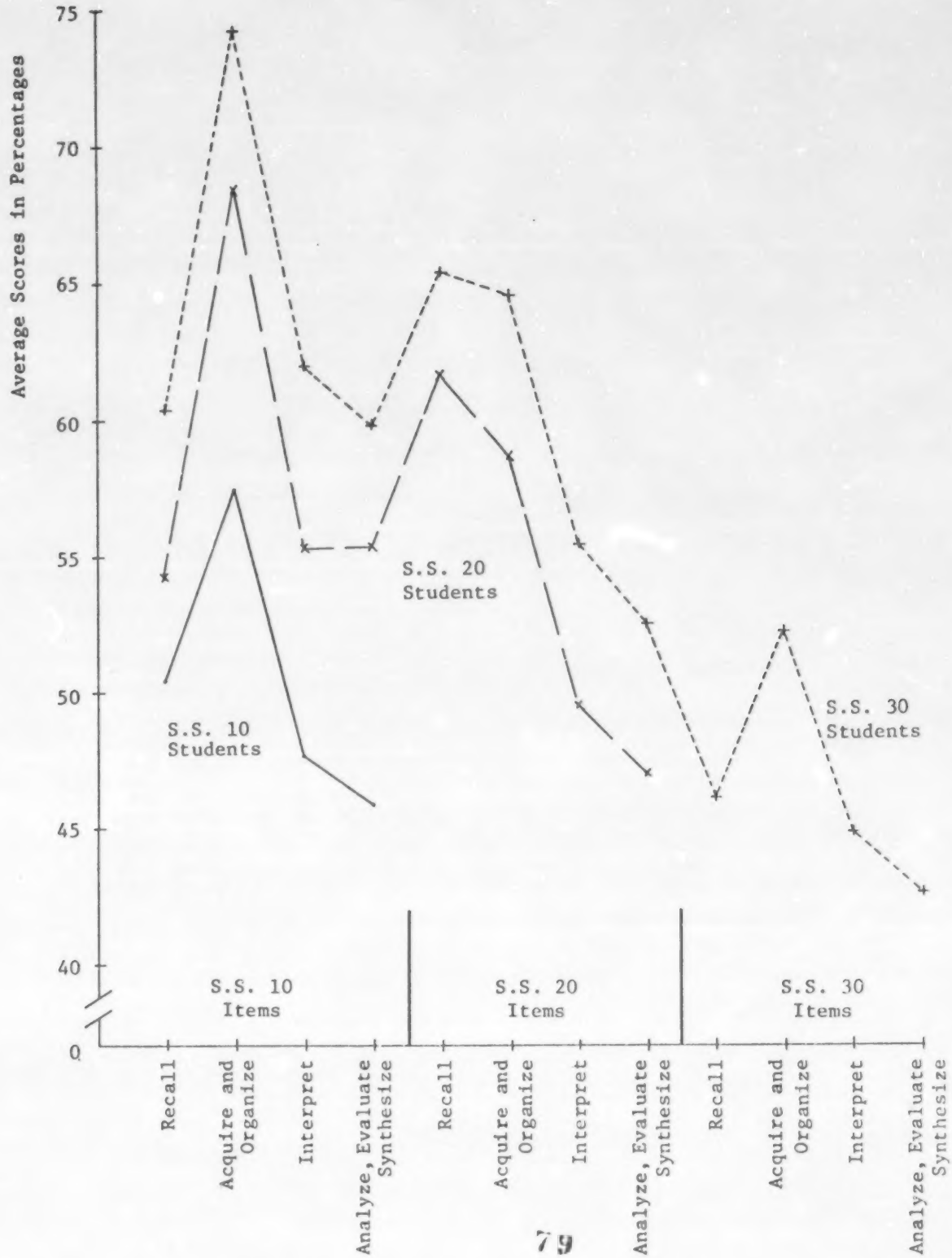
1. Based on Social Studies 10 content, Social Studies 30 students achieved the highest scores while Social Studies 10 students achieved the lowest scores on all four categories.

2. Based on Social Studies 20 content, Social Studies 30 students achieved higher scores than Social Studies 20 students on all categories.

3. Within Social Studies 10 content, all three groups of students scored highest on items classified as "Acquire and Organize". Social Studies 10 students and Social Studies 30 students scored lowest on "Analyze, Evaluate and Synthesize", while Social Studies 20 students scored lowest on items classified as "Interpret" as well as on items classified as "Analyze, Evaluate and Synthesize".

Figure 14

Average Scores Based on Processing Skills



4. Within Social Studies 20 content only 2 items were classified as "Recall", consequently interpretations and conclusions based on this category are not meaningful. Of the other three categories, both Social Studies 20 students and Social Studies 30 students scored highest on "Acquire and Organize" and lowest on "Analyze, Evaluate and Synthesize".

5. Within Social Studies 30 content which was written by only Social Studies 30 students, results revealed that this group of students scored highest on "Acquire and Organize" and lowest on "Analyze, Evaluate and Synthesize".

Conclusions

1. Based on the three categories of processing skills of "Acquire and Organize", "Interpret" and "Analyze, Evaluate and Synthesize", all three groups of students found the items classified as "Acquire and Organize" the easiest. They found items classified as "Analyze, Evaluate and Synthesize" the most difficult.

2. Except for Social Studies 20 content, which consisted of only two items, all students found the items classified as "Recall" more difficult than those classified as "Acquire and Organize". They found the level of difficulty of items classified as "Recall" virtually as difficult as those classified as "Interpret".

Chapter 5

CONCLUSIONS AND RECOMMENDATIONS

This report is the result of a comprehensive study of the development of the Alberta Social Studies Achievement Tests. Initially it reviewed the procedures and methods of test construction employed and developed by the Student Evaluation and Data Processing Services Branch of Alberta Education. It also provided a comprehensive and detailed analysis of the norming data of these tests. The findings of these two different types of evaluative activities will be considered separately.

IDENTIFICATION OF OBJECTIVES

The most difficult and most challenging task in the construction of the Social Studies Achievement Tests involved the identification of objectives to be tested. In the early stages of test construction, difficulty was experienced in attempting to define common knowledge and skill objectives for any course level. There is need for specifying objectives more clearly from which testable objectives can be developed.

The flexi ility which was built into the high school social studies program was often cited as an argument against the preparation of achievement tests. There was great variation among teachers in the interpretation of the flexibility given to them. Muessig in discussing the flexibility factor in social studies

programs expressed the following caution:

> Flexibility is not a license to shoot deer out of season. Teachers cannot be free to teach whatever comes to mind whenever they are in the mood -- faithful to the goals and developmental stages of the social studies program or not.[1]

In courses of study designed to give teachers flexibility and freedom to choose content and methods, more specific indication of the scope and sequence included in each course would be desirable.

Although, there was a general agreement that social studies skills were important and should be tested there was considerably less agreement as to what skills were to be the responsibility of what grade levels and at what degree of sophistication. Cassidy and Kurfman addressed themselves to this question when they stated:

> To help students develop skills, teachers must build on the work of one another. . . . This requires development of a sequential K-12 skills program in which teachers at each grade level have clear responsibility for emphasizing certain decision-making skills and affective objectives, while their colleagues have responsibility for emphasizing other skills and affective outcomes.
>
> . . . . . .
>
> If all teachers are expected to assume responsibility for all skills, the result is likely to be no sense of responsibility at all.[2]

The area of skills development in the social studies

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[1]Raymond H. Muessig, "Basic Characteristics of a Good Social Studies Curriculum", Social Studies Curriculum Improvement: A Guide for Local Committees, ed. Raymond H. Muessig (Bulletin No. 36; Washington: National Council for the Social Studies, 1965), p. 26.

[2]Edward W. Cassidy and Dana G. Kurfman, "Decision Making as Purpose and Process", Developing Decision Making Skills, ed. Dana G. Kurfman (Arlington, Virginia: National Council for the Social Studies, 1977), p. 20.

program and the degree to which they should be developed at the various grade levels requires much more careful thought and planning.

Finally, it may well be that the procedures developed in the construction of the Social Studies Achievement Test are more important than the actual product itself. These procedures provide us with the rationale and the strategies for developing testing instruments capable of assessing the different goals of the social studies program. The methods of defining the "process" goals in the social studies as well as the development of evaluation models suited to the assessment of such goals provide a model of test construction which could be readily adapted to future uses.

Furthermore, the practice of involving competent, practicing teachers throughout the province in the construction of test items was a procedure which helped to realize several goals. It provided a greater validity to the test items. It served to provide instant "feedback" concerning the suitability of the items, and finally it provided an opportunity for in-service work and further professional growth for all those involved.

ANALYSIS OF THE NORMING DATA

Five analyses of the test were performed and reported. These included analyses of the Total Tests, Item Levels, Content Areas, Canadian Content and Processing Skills.

Significant findings included the following:

1. Social Studies 20 students and Social Studies 30 students appeared to retain the knowledge and skills taught to them at earlier course levels. Social Studies 30 students' average scores on total Social Studies 20 items and on total Social Studies 10 items were higher than that of Social Studies 20 students and that of Social Studies 10 students. Similarly, Social Studies 20 students' average score on total Social Studies 10 items was higher than that of Social Studies 10 students. Furthermore, without exception, Social Studies 30 students achieved higher average scores than Social Studies 20 students on each of the Social Studies 20 content areas and higher than Social Studies 10 students on each of the Social Studies 10 content areas. Social Studies 20 students achieved higher average scores on each of the Social Studies 10 content areas than did Social Studies 10 students. Moreover, at all three criterion levels for all five Social Studies 10 content areas, the percentages of Social Studies 30 students and the percentages of Social Studies 20 students are higher than those of the Social Studies 10 students with the percentages of the Social Studies 30 students being the highest. For Social Studies 20 content areas, the percentages of Social Studies 30 students' are higher than those of Social Studies 20 students.

2. The greatest variation in difficulty was found in the Social Studies 10 content areas. The ranges of average scores on this level of content were 11.02, 13.55, and 12.78 for Social

Studies 10 students, Social Studies 20 students and Social Studies 30 students respectively.

3. Both Social Studies 20 students and Social Studies 30 students appeared to retain knowledge and skills relative to Canadian content taught to them at earlier course levels. It is significant to note that there was no erosion or falling-off of average scores in the Canadian content found mainly in the Social Studies 10 course level. This would indicate that, the Social Studies 20 and Social Studies 30 students do build upon the social studies knowledge and skills taught to them at earlier course levels.

4. Social studies students found items classified under "Acquire and Organize", which was the lowest level of thought processes in taxonomy established for this study, the easiest; they found the items classified as "Analyze, Evaluate, and Synthesize", which was the highest level, the most difficult. This indicates that the levels of thought processes are highly related to the difficulty of the items. Stated another way, the higher the level of thought processes required to answer the questions or to solve the problems the more difficult the questions.

"Recall" items were found to be approximately as difficult as "Interpretation" items.

5. Social Studies 30 students achieved significantly higher scores than did Social Studies 10 and Social Studies 20 students on Social Studies 10 and Social Studies 20 content.

Their lowest scores were achieved on content areas related to Social Studies 30. These scores are considered to be only marginally satisfactory.

RECOMMENDATIONS

1. The low level of achievement of Social Studies 30 students on Social Studies 30 content may be attributed in part to the lack of specificity of course objectives and the flexibility accorded to teachers. It is therefore recommended that the program of studies more clearly define course objectives.

2. In addition to the high school Social Studies Achievement Test that is presently used by schools, it is recommended that an item bank be established for local use in an ongoing measurement program. This bank would assist teachers in the assessment of the flexible areas of the curriculum.

3. It is recommended that the policy of Alberta Education relative to the assessment of social studies achievement be continued.

4. Decisions concerning the specific factors associated with a long-range plan of monitoring student achievement should be made in order to assure that the necessary data or information would be collected and available. Variables which might be regarded as significant to student achievement could include

- Sex (male - female)
- Ethnic background
- Religious background

- Income of parent (Socio-economic)
- Type of community (city - town - village - rural)
- Size of community
- Other factors

BIBLIOGRAPHY

BIBLIOGRAPHY

Alberta Department of Education. Experiences in Decision-Making: Elementary Social Studies Handbook. Edmonton: Queen's Printer, 1971.

_____. "Procedures for the Accreditation of Senior High Schools in Alberta." Alberta Deputy Minister of Education, February 7, 1973.

_____. Responding to Change: A Handbook for Teachers of Secondary Social Studies. Edmonton: Queen's Printer, 1972.

_____. Roles in Student Evaluation and Research. Edmonton: Queen's Printer, 1976.

_____. Senior High School Social Studies Achievement Test: Manual of Directions for Administering, Scoring, and Interpreting Test Results, 1978.

Alberta Legislative Assembly. Alberta Hansard, Friday, October 22, 1976.

Alpern Mildred. "Develop Your Own Tests in World History," Social Education, XL (November-December, 1976), 517-523.

Berry, G.L. Problems and Values. Toronto: J.M. Dent & Sons, 1967.

Brown, Leona B. "What Teachers Should Know About Standardized Tests," Social Education, XL (November-December, 1976), 509-516.

Buros, Oscar K., ed. The Seventh Mental Measurements Yearbook. Highland Park, New Jersey: The Gryphon Press, 1972.

Ebel, Robert L. Essentials of Educational Measurement. Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1972.

Flynn, John T., and Herbert Garber, eds. Assessing Behavior: Readings in Educational and Psychological Measurement. Don Mills, Ontario: Addison-Wesley, 1967.

Glass, G.V. and Stanley, J.C. Statistical Methods in Education and Psychology. Englewood Cliffs, New Jersey. Prentice-Hall, Inc., 1970.

Kurfman, Dana G., ed. Developing Decision Making Skills. Arlington, Virginia: National Council for the Social Studies, 1977.

Ledgerwood, C.D. "Preparing Decision-Makers for the Seventies," ATA Magazine, L (January-February, 1970), 8-11.

MacArthur, R. S., and S. Hunka. "School Examination Practices and Standards in Alberta," A Report to the Alberta Advisory Committee on Educational Research. Edmonton: University of Alberta Monograph in Education, Number Two, 1958.

Mehrens, William A., and Irvin J. Lehmen. Measurement and Evaluation in Education and Psychology. New York: Rinehart and Winston Inc., 1973.

Muessig, Raymond H., ed. Social Studies Curriculum Improvement: A Guide for Local Committees. Bulletin No. 36. Washington: National Council for The Social Studies, 1965.

Rusnack, T. A. "A Report on Evaluating Education in Alberta's Schools." Edmonton: Alberta Department of Education, September, 1975.

Stufflebeam, Daniel L., et al. Educational Evaluation and Decision Making. Bloomington, Indiana: Phi Delta Kappa, 1971.

APPENDICES

Appendix 1

Social Studies Achievement Test
Policy Committee

SOCIAL STUDIES ACHIEVEMENT TEST

POLICY COMMITTEE

J.E. REID, Ed. D., Director, Student Evaluation and Data Processing Services

* H.G. SHERK, Ph. D., Associate Director of Curriculum, Department of Education

H. TOEWS, Ph. D., Consultant, Calgary Regional Office of Education

K. DUECK, Ph. D., Faculty of Education, University of Calgary

H. SKOLROOD, Ph. D., Faculty of Education, Lethbridge University

W. BADGER, Social Studies Supervisor, Edmonton Public School Board

K. KOCH, Social Studies Supervisor, Calgary Public School Board

R. WRAY, President, Social Studies Council A.T.A., Social Studies Supervisor, Edmonton Separate School Board

K. THOMPSON, Social Studies Supervisor, Calgary Separate School Board

N.P. SABHARWAL, Department Head, Fort Saskatchewan High School

P. KENNEDY, Department Head, Lindsay Thurber Comprehensive High School, Red Deer

M. CLARK, Department Head, Lethbridge Collegiate Institute

K. VANDENBERG, Alberta Correspondence School Branch

J. WOOD, Co-ordinator Test Development, Department of Education (Chairman)

A. MERCIER, Department Head, Western Canada High School, Calgary, on secondment as Test Development Specialist

C. SRINILTA, Test Development Specialist, Department of Education

R. LOPATKA, Department Head, Queen Elizabeth High School, Edmonton, on secondment as Test Development Specialist

*Dr. C.D. Ledgerwood, successor to Dr. Sherk as Associate Director of Curriculum, served during the latter part of the test development activities.

Appendix 2

Social Studies Achievement Test
Item Building Committees

Social Studies Achievement Test
Item Building Committees

County of Strathcona

Paul Sabharwal
Judy Axelson
Irene Sokolotosky
B. Mackenzie
Richard Russel
Patrick Johnston
Robert Saunders
Stewart Botsford
Dave Dixon
Henry Fiege
R.P. Johnston
G. Fred McNally
Kay Burger
John Gavinchuk
Jim Lazaruk
Ernie Zutz

Red Deer

Doug Abrahamson
Ron Anderson
Gurmail Bassi
Peter Chitrenky
Halvar Jonson
Elmer Kusiek
Jack Layton
Dave McFarlane
Bob Metcalf
Terry Mitchell
Eileen Reinbold
Dale Storvik

Calgary Area

Frank Bolton
Ruth Harrowing
Doug Purkis

Peace River

John Forsyth
Robert Harbourne
Philip Prato
S.P. Singh Nayyer
Ron Gaida
Ron Williams
Lachlan Phimester

Edmonton

Bill Dacshyn
Mary Friesenham
Willis Kachuk
Al Mitchner
Peter Sands
Shirley Stiles

Grande Prairie

Jim Brackenbury
Charles D. Cameron
Tim Park
Campbell Ross
Jim Sherman
Dennis Whitling

Models Committee

Mary Stacey
Robert Guglich
Pat Trudeau
Ernie Zutz
Dave MacWhirter

Sir Winston Churchill

Grant Dustin
Jim Strain
Jim Campbell
Ken Kittridge
Al Ratsoy
Maryanne Petersen
Susan Ness
Dale Jacobson

Calgary

Ginger Cunès
John Jepson
Barry Jonas
Mike Haltman
Margaret Lees
William McNamee
Mervin Reimer
Jeanine Tenove
Darcy Yerex
Jim Smith

Lethbridge

Eugene Eisler
Leslie Veres
Wayne Glass
Eric Johnson
Paulette Alvau
Stewart Windrum
Van Van Orman
Henry Peard

Appendix 3

Taxonomy of Social Studies Skills

SOCIAL STUDIES SKILLS

PART I

1.0 PROBLEM SOLVING SKILLS

1.1. ACQUIRE INFORMATION

1.1.1 Finds Materials in a library

1.1.1.1 Locates call numbers

1.1.1.2 Locates publishers

1.1.1.3 Locates date of publication

1.1.1.4 Locates number of pages

1.1.1.5 Locates illustrations

1.1.1.6 Hypothesizes content from annotation

1.1.1.7 Locates related sources

1.1.2 Locates information in Books

1.1.2.1 Determines currency of information

1.1.2.2 Determines source of related materials

1.1.2.3 Locates page on which topic is found

1.1.2.4 Finds chapter or story

1.1.2.5 Determines author

1.1.2.6 Hypothesizes content

1.1.3 Acquires information through reading

1.1.3.1 Acquires information by skimming

1.1.3.2 Reads to find answers to questions

1.1.3.3 Identifies the main ideas

1.1.3.3.1 Uses headings to find main ideas

1.1.3.3.2 Uses topics sentences to find main ideas

1.1.3.3.3 Uses summary sentences to find main ideas

1.1.3.4 Differentiates between main ideas and lesser ideas

1.1.3.5 Selects statements that apply to the topic being studied

1.1.4 Acquires information from geographic materials (Maps)

1.1.4.1 Finds locations

1.1.4.2 Determines directions

1.1.4.3 Estimates or computes distance by using scales

1.1.4.4 Uses map legends

1.1.5 Acquires information from graphic materials
- 1.1.5.1 Identifies elements
- 1.1.5.2 Establishes relationships of elements
- 1.1.5.3 Identifies structural relationships
- 1.1.5.4 Identifies cause and effect relationships
- 1.1.5.5 Determines amounts in a given relationship

1.1.6 Acquires information by listening and observing
- 1.1.6.1 Acquires information from field trips
- 1.1.6.2 Acquires information from a speaker
- 1.1.6.3 Acquires information from an interview
- 1.1.6.4 Acquires information from recordings

1.1.7 Acquires information from a variety of sources
- 1.1.7.1 Acquires information from Dictionaries and Encyclopedia
- 1.1.7.2 Acquires information from Directories and References
- 1.1.7.3 Acquires information from Audio-Visual Materials
- 1.1.7.4 Acquires information from Newspapers and magazines
- 1.1.7.5 Acquires information from Pamphlets

1.2. ORGANIZE INFORMATION

1.2.1 Arranges, organizes, classifies material
- 1.2.1.1 Arranges facts, ideas and events in order
  - 1.2.1.1.1 Arranges facts, ideas and events according to criteria
  - 1.2.1.1.2 Arranges events in chronological order
- 1.2.1.2 Classifies, categorizes or groups data
  - 1.2.1.2.1 Classifies data according to internal criteria
  - 1.2.1.2.2 Classifies data according to stated criteria

1.2.2 Records Information
- 1.2.2.1 Takes Notes
  - 1.2.2.1.1 Lists topics
  - 1.2.2.1.2 Summarizes main points
- 1.2.2.2 Selects the main ideas and supporting facts
- 1.2.2.3 Makes an outline of main points about a subject
- 1.2.2.4 Selects the answers to questions from oral, written, or visual information
- 1.2.2.5 Classifies information under main headings
- 1.2.2.6 Composes headings for: outlines, summaries, diagrams, graphs

1.2.2.7 Prepares table of contents

1.2.2.8 Compiles bibliography

1.3 INTERPRET INFORMATION

1.3.1 Interprets information accurately

1.3.1.1 Interprets information accurately from writing, printing and numerical symbols

1.3.1.2 Interprets information accurately from graphic representations: maps, graphs, charts, diagrams

1.3.1.3 Interprets information accurately from illustrative materials: pictures, slides, overhead transparencies, films

1.3.1.4 Interprets information accurately from models

1.3.1.5 Interprets information accurately from spoken words

1.3.1.6 Interprets information accurately from behavior: gestures, actions, expressions

1.3.2 Comprehends information

1.3.2.1 Identifies the central issue or problem

1.3.2.2 Identifies the main and supporting ideas

1.3.2.3 Identifies generalizations

1.3.2.4 Recognizes underlying assumptions

1.3.2.5 Recognizes hypotheses

1.3.2.6 Recognizes underlying values, attitudes, biases, and motives

1.3.2.7 Recognizes propaganda devices

1.3.3 Translates information

1.3.3.1 Presents information in different forms and representations

1.3.3.1.1 Compiles tables

1.3.3.1.2 Constructs graphs

1.3.3.1.3 Draws diagrams

1.3.3.1.4 Draws maps

1.3.3.1.5 Prepares charts

1.3.3.1.6 Prepares models

1.3.3.2 Restructures information

1.3.3.2.1 Recognizes the logic or connections among ideas

1.3.3.2.2 Rearranges or reorders ideas to make them more meaningful

1.3.3.3 Combines the meaningful parts into a meaningful total idea

1.4 ANALYZE AND EVALUATE INFORMATION

1.4.1 Analyzes evidence systematically and thoroughly

1.4.1.1 Analyzes and tests evidence for accuracy

1.4.1.2 Analyzes and tests evidence for adequacy

1.4.1.3 Analyzes and tests evidence for relevance

1.4.1.4 Analyzes and tests evidence for contradiction

1.4.1.5 Analyzes and tests evidence for consistency

1.4.1.6 Analyzes and tests evidence for reasonableness

1.4.1.7 Analyzes and tests evidence for bias

1.4.2 Compares data from various sources

1.4.2.1 Compares data from different sources to discover agreement

1.4.2.2 Compares data from different sources to discover disagreement

1.4.2.3 Decides which source of information is more acceptable

1.4.3 Applies the perspectives, concepts, generalizations, theories and systems of history and the social sciences in analyzing problems

1.4.4 Applies the procedures of history and the social sciences in analyzing problems

1.4.5 Evaluates arguments in terms of logical criteria and empirical modes of enquiry

1.4.5.1 Evaluates consistency of arguments

1.4.5.2 Evaluates logical relationships among assumptions, evidence, and conclusions

1.4.6 Evaluates conclusions against external standards or criteria

1.5 SYNTHESIZE INFORMATION

1.5.1 Draws inferences

1.5.1.1 Draws inferences from particular facts or data

1.5.1.1.1 Infers from observations

1.5.1.1.2 Infers from descriptive data

1.5.1.1.3 Infers from representations

1.5.1.1.4 Infers from sequences of events

1.5.1.1.5 Infers from graphic materials

1.5.1.2 Draws inferences about a particular case from a general principle

1.5.2 Generalizes

1.5.2.1 Makes generalizations by discovering relationships between concepts

1.5.2.2 Applies generalizations to new situations to test their validity

1.5.3 Hypothesizes

1.5.3.1 Formulates hypotheses to explain certain facts

1.5.3.2 Formulates hypotheses to guide in the investigation of problems

1.5.3.3 Verifies hypotheses through logical operations

1.5.4 Theorizes

1.5.4.1 Discovers complex relationships and patterns

1.5.4.2 Reasons from particular facts or individual cases in order to reach a rule or general principle

1.5.4.3 Formulates logical rules that account for facts

1.5.4.4 Tests theories by applying them to new situations

1.5.5 Makes decisions

1.5.5.1 Determines which rules of thinking or principles are appropriate for a given problem

1.5.5.2 Applies rules or principles in order to arrive at answers or solutions

1.5.5.3 Formulates alternative courses of action

1.5.5.4 Predicts the possible consequences of a specified course of action

1.5.5.5 Selects the most appropriate solution to the problem

1.5.5.6 Recognizes the need to change conclusions in the light of new evidence or new conditions

1.5.5.7 Suspends decision-making until sufficient information is secured to provide an adequate perspective regarding the problem

SOCIAL STUDIES SKILLS

PART II

2.0 VALUE CLARIFICATION SKILLS

2.1 IDENTIFY VALUES (Attitudes, beliefs)

2.1.1 Identifies personal values

2.1.1.1 Identifies things, ideas and behaviors one values

2.1.1.2 Identifies things, ideas and behaviors others value

2.1.2 Identifies underlying values

2.1.2.1 Identifies values expressed in behavior

2.1.2.2 Identifies values expressed in choices

2.1.2.3 Identifies values underlying decisions on issues

2.1.2.4 Identifies values underlying interests

2.1.3 Identifies different value positions represented in a social issue

2.1.4 Identifies conflicting values in a social issue

2.2 ARRANGE (ORGANIZE) VALUES

2.2.1 Selects the value principles which are appropriate to the situation

2.2.2 Ranks personal values in order of priority

2.2.3 Locates information which supports different value positions on social issues

2.3 ANALYZE VALUES

2.3.1 Determines the reasons why one values certain things, ideas and behaviors

2.3.2 Determines what unmet needs might be influencing one's behavior

2.3.3 Determines the intensity with which people value certain things, ideas and behaviors at a given time

2.3.4 Analyze one's own and others statements to identify the underlying values and value principles

2.3.5 Analyze one's own and others behaviors

2.3.6 Analyze one's own and others actions, emotional responses, choices and decisions to indicate the strength of one's commitment to a value

2.4 EVALUATE VALUES

2.4.1 Evaluates the appropriateness of one's values

2.4.1.1 Evaluates how well one's values meet personal needs

2.4.1.2 Evaluates how well one's values meet needs of others

2.4.1.3 Evaluates how well one's values meet needs of society

2.4.1.4 Evaluates how well one's values meet needs of man

2.4.2 Evaluates basis of value positions

2.4.2.1 Evaluates the adequacy of information that underlies personally held values and principles

2.4.2.2 Evaluates the rationales underlying values or principles

2.4.3 Constructs alternatives which meet the needs of self and society in problem or conflict situations

2.4.4 Validates decisions (choices) made

2.4.4.1 Tests decision for agreement with respected sources

2.4.4.2 Test universal applicability of choice

2.4.4.3 Tests validity of choice by exchange of roles

2.4.4.4 Tests applicability of decision to new cases

2.5 INTERNALIZE VALUES

2.5.1 Internalizes values in response to validated information about needs, values and behavior

2.5.2 Alters or maintains behavior to match personal values or needs

2.5.3 Alters or maintains behavior in response to new inf rmation about self or situation